

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
SUMY NATIONAL AGRARIAN UNIVERSITY  
ECONOMICS AND MANAGEMENT FACULTY**

**Public Management and Administration Department**

# **QUALIFICATION WORK**

**Education Degree - Master**

**on: Improving the management system of the Service  
Support Agriculture–Culture–Tourism for Integration in  
Rural Revitalization**

Completed:

student of  
073 «Management» (EP «Administrative  
Management»)

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# SUMY NATIONAL AGRARIAN UNIVERSITY

**Faculty**  
**Department**

Economics and Management  
Public management and administration

**Education degree**

«Master»

**Field of Study**

073 «Management» (EP «Administrative Management»)

Approved:

Head of  
Department

« \_\_\_\_\_ »

20

## TASK

on qualification work for student

*Liu Shuxin*

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**1. Theme of Qualification work:** **Improving the management system of the Service Support Agriculture–Culture–Tourism for Integration in Rural Revitalization**

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Supervisor Tetiana Kharchenko, Doctor of Public Administration, Associate Professor

approved by the university from \_\_\_\_\_

**2. Deadline for student completed project (work)**

December 25, 2024

**3. Background to the project (work):**

educational methodical manuals, monographs, textbooks on the subject of research, scientific publications, economic and financial statements for the period of 2020-2025

**4. Contents of settlement and explanatory notes (the list of issues to develop):**

The analyse the actual problems of the concept and supporting theory of "supporting the system management of the services for agriculture, culture, and tourism", clarify its connotation and research direction, evaluate the effectiveness of supporting services using quantitative and qualitative methods, systematically analyze the current situation of supporting public services for agriculture, culture, and tourism in Qingdao, propose optimization paths, and provide practical references for the high-quality development of integrated agriculture, culture, and tourism under the background of rural revitalization.

**5. Date of assignment:**

## CALENDAR PLAN

| №  | Title the stages of the degree project (work)                                                             | Date of performance project stages | Note |
|----|-----------------------------------------------------------------------------------------------------------|------------------------------------|------|
| 1  | Definition and approval of the thesis, preparation of the plan - schedule of work                         | <i>December, 2024</i>              | done |
| 2  | Selection and analysis of literary sources, the preparation of the first theoretical chapter              | <i>December, 2024</i>              | done |
| 3  | Preparation and presentation of draft of the first chapter of the thesis                                  | <i>February 2025</i>               | done |
| 4  | Collection and processing of factual material, synthesis analysis of application issues in the enterprise | <i>March 2025</i>                  | done |
| 5  | Making the theoretical part of the thesis, summarizing the analytical part                                | <i>April 2025</i>                  | done |
| 6  | Design options improve the research problem                                                               | <i>May 2025</i>                    | done |
| 7  | Completion of the project part of the thesis, design chapters                                             | <i>May 2025</i>                    | done |
| 8  | Previous work and its defense review                                                                      | <i>June, 01-02 2025</i>            | done |
| 9  | Checking the authenticity of the thesis                                                                   | <i>October, 10-11 2025</i>         | done |
| 10 | Deadline for student completed the thesis                                                                 | <i>December, 14 2025</i>           | done |
| 11 | Defense of the thesis                                                                                     | <i>December, 30 2025</i>           | done |

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## SUMMARY

**Liu Shuxin. Improving the management system of the Service Support Agriculture–Culture–Tourism for Integration in Rural Revitalization.**

**Master's thesis in the specialty 073 «Management», EP «Administrative Management» SNAU, Sumy-2025 - Manuscript.**

The theoretical contribution of this study lies in establishing an analytical framework encompassing "rural revitalization, integration of agriculture, culture, and tourism, and public service infrastructure," thereby enhancing the application of public service supply theory in rural contexts. Its practical value is demonstrated by strategies tailored to Qingdao's specific conditions, such as the "facility adoption" and "digital talent development" initiatives, which have proven effective in pilot zones and can serve as a reference for similar regions nationwide.

Under the strategy of rural revitalization, the integration of agriculture, culture, and tourism is the core path to activate rural resources and achieve industrial prosperity. This article takes Qingdao City, Shandong Province as the research object, focusing on the issue of public service support in the integration of agriculture, culture, and tourism. Literature research, case analysis, quantitative analysis, and comparative research methods are adopted, combined with the latest data from 2024-2025 to conduct research. The results show that Qingdao has built 12 city level agricultural, cultural, and tourism demonstration areas, forming a practical foundation for the "three integrations" transportation model and shared facilities between hosts and guests.

Research the construction of a "1+3+N" diversified collaborative supply system, propose optimization strategies such as upgrading transportation and logistics, integrating cultural and tourism facilities, and intelligentizing digital services, as well as supporting policy packages, diversified funding, and "millions" talent guarantee mechanisms. The conclusion points out that Qingdao needs to promote the upgrading of public services from "coverage" to "quality". The research not only improves the theoretical framework of agricultural, cultural and tourism public services, but also provides replicable practical experience for similar coastal villages in Shandong Province and even the whole country.

**Keywords:** rural revitalization, integration of agriculture, culture, and tourism; management service supporting facilities; optimization strategy.

## АНОТАЦІЯ

**Лю Шусінь. Удосконалення системи управління послугами підтримки сільського господарства, культури та туризму для інтеграції у відродження сільських територій.**

**Магістерська робота за спеціальністю 073 "Менеджмент", ОП "Адміністративний менеджмент" СНАУ, Суми-2024 - Рукопис.**

Теоретичний внесок полягає у створенні аналітичної основи, що охоплює «відродження сільських районів, інтеграцію сільського господарства, культури та туризму, а також інфраструктуру державних послуг», тим самим покращуючи застосування теорії постачання управлінських послуг у сільських умовах. Її практична цінність демонструється стратегіями, адаптованими до конкретних умов Циндао, такими як ініціативи «впровадження об'єктів» та «розвиток цифрових талантів», які довели свою ефективність у пілотних зонах і можуть слугувати орієнтиром для аналогічних регіонів по всій країні.

У рамках стратегії відродження сільських районів інтеграція сільського господарства, культури та туризму є основним шляхом активації сільських ресурсів та досягнення промислового процвітання. Для проведення дослідження використовуються літературні дослідження, аналіз конкретних випадків, кількісний аналіз та методи порівняльного дослідження, поєднані з останніми даними за 2024-2025 роки. Результати показують, що Циндао побудувало 12 демонстраційних зон сільського, культурного та туристичного рівня на рівні міста, що формує практичну основу для транспортної моделі «трьох інтеграцій» та спільних об'єктів між господарями та гостями.

Дослідити побудову диверсифікованої спільної системи постачання "1+3+N", запропонувати стратегії оптимізації, такі як модернізація транспорту та логістики, інтеграція культурних та туристичних об'єктів та інтелектуалізація цифрових послуг, а також підтримуючі пакети політик, диверсифіковане фінансування та механізми гарантування талантів "мільйони". Доведено, що необхідно сприяти підвищенню рівня державних послуг від "охоплення" до "якості". Дослідження забезпечує практичний досвід, який можна повторити, для аналогічних прибережних сіл провінції Шаньдун та усієї країни.

**Ключові слова:** відродження сільських районів, інтеграція сільського господарства, культури та туризму; управління допоміжними об'єктами послуг; стратегія оптимізації.

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## INTRODUCTION

**Relevance of the topic.** As rural revitalization strategies advance, the integration of agriculture, culture, and tourism has emerged as a key approach to unlock rural resources and achieve "thriving industries". Shandong Province, a major agricultural and cultural tourism hub, outlined in its 2024 Action Plan for Modern Tourism Development (2024-2027) the promotion of "agri-cultural-tourism integration and diversified leisure agriculture", with "enhancing tourism infrastructure" as a priority. Qingdao, leveraging its coastal-land ecological advantages, Jiaodong's distinctive farming heritage, and revolutionary sites, has developed model zones like Yangjiashanli and Baiguo Valley. During the 2025 Spring Festival holidays, these rural revitalization areas attracted over 950,000 visitors, generating nearly 200 million yuan in tourism revenue, establishing them as Shandong's pioneering examples.

However, inadequate public services remain a critical bottleneck: visitors to Jimo Lotus Fields report "lack of camping facilities and cycling routes", while remote villages face "parking shortages and confusing signage during peak seasons". Although Yangjiashanli has built 11 parking lots, its smart navigation system remains incomplete, creating a disconnect between visitor numbers and actual stays. From a theoretical perspective, existing research predominantly focuses on innovation models in the agriculture-culture-tourism industry, such as "festival + agriculture" and "revolutionary heritage + educational tours," while lacking systematic studies on public service infrastructure. Current research either emphasizes single facilities like tourist toilets or concentrates on macro policies, failing to provide comprehensive analysis across the entire chain of "facility layout-service provision-operational mechanisms." Particularly, there is a notable absence of empirical studies from rural areas in developed coastal regions like Qingdao.

Shandong Province aims to achieve full coverage of "fast access, slow travel" transportation networks in agricultural, cultural, and tourism zones by 2027. Qingdao City is currently upgrading 26 municipal-level rural revitalization zones, urgently needing targeted research to optimize public service infrastructure. This study not only fills the

gap in regional research through a case analysis of Qingdao but also provides replicable experiences for public service development in agricultural-culture-tourism integration zones across Shandong Province and nationwide.

**The purpose and objectives of the study.** This study aims to establish a theoretical framework for integrated public service systems in rural, agricultural, and cultural development within the context of rural revitalization initiatives. It systematically analyzes the current characteristics and core challenges of public service infrastructure in Qingdao's rural, agricultural, and cultural zones, proposing an optimized approach that combines facility adaptation, service enhancement, and institutional safeguards. The findings provide decision-making references and practical guidance for promoting high-quality development of rural-agricultural-cultural integration in Qingdao Province.

To achieve these objectives, seven core tasks must be accomplished:

Defining the core concept of integrated public services for agriculture, culture, and tourism; clarifying their logical boundaries with rural public services and tourism services; establishing three key dimensions: "hardware facilities-software services-operational mechanisms";

Analyzing the evolution of agricultural-cultural-tourism integration policies in Shandong Province (2020-2025) and examining Qingdao's "zonal advancement" strategy with its public service requirements;

Conducting field research on public service infrastructure in Qingdao's 8 provincial and 18 municipal rural revitalization zones, including transportation, parking, navigation, and wellness facilities, to build a current status database;

Developing an adaptability evaluation system for public service infrastructure, using Yangjiashanli and Baiguo Valley as case studies to quantify facility supply-demand alignment;

Identifying key constraints for upgrading agricultural-cultural-tourism services in Qingdao, such as funding, operational entities, and technology adoption, while evaluating the strengths and weaknesses of the "government-led-village-enterprise co-construction-market-driven" model;

Designing tailored optimization plans: Smart facility integration for eco-zones like

Laoshan Bay, and enhanced educational services for red-themed zones like Yangjiashanli;

Proposing supporting mechanisms including funding channels, government-bank-enterprise collaboration, talent development, "peak season employment, off-season education" models, technical support, and digital rural platforms.

**The object of study** is the public service infrastructure and optimization strategies in Qingdao's agricultural, cultural, and tourism integration zones under rural revitalization initiatives. Key components include spatial planning and construction standards for public facilities, service content and quality, operational management mechanisms, and policy support with integrated resource pathways.

**The subject of research** is the development of integrated public service systems for agriculture, culture, and tourism in rural revitalization, as exemplified by the case of Qingdao City. It focuses on three core relationships: 1) aligning industry characteristics with public service demands; 2) coordinating government leadership with market participation; 3) balancing infrastructure development with sustainable operations.

**Research methods:** To ensure the scientific rigor of the research, four integrated methodologies were employed. Literature Review: Systematically analyzing core journal articles and policy documents to establish theoretical frameworks and academic positioning. Case Studies: Comparing public service models across regions to summarize differentiated development experiences. Quantitative Analysis: Using descriptive statistics, correlation analysis, and regression modeling to provide quantitative support for problem diagnosis and strategy formulation. Comparative Research: Offering reference points for optimizing public service infrastructure in Qingdao through both horizontal and vertical dimensions.

**The database** encompasses the research achievements of domestic and foreign scholars, as well as official and academic journal literature, official policy documents, international and Chinese academic conference materials, Shandong and Qingdao statistical data, media reports, and survey data.

**The scientific novelty of the results lies in** establishing an assessment system that balances hardware indicators (such as parking space ratio) and software indicators (such

as service response speed), with the addition of a secondary indicator, "ecological adaptability," tailored to Qingdao's mountain-sea rural characteristics.

**The practical significance of the results is** the Summarizing Qingdao's public service construction model of "government planning, village-enterprise co-construction, and smart operation," analyzing the operational mechanisms of Qiangcun Gongfu Company in facility management, and providing replicable pathways for villages with weak collective economies.

**The structure and scope of work.** Qualification work consists of an introduction, three chapters, conclusions and suggestions, a list of references, which consists of 24 titles. The main text is placed on 60 pages of computer text; the work contains 16 tables and 6 figures.

## CHAPTER 1

# THEORETICAL AND METHODOLOGICAL BASIS FOR THE INTEGRATION OF AGRICULTURE, CULTURE, TOURISM, AND PUBLIC SERVICE SUPPORTING FACILITIES

Research on the integration of agriculture, culture, and tourism (hereinafter referred to as A, C, and tourism) into public service supporting facilities, in the context of rural revitalization, requires support from interdisciplinary theories and the application of scientific research methods to construct an analytical framework. This section elaborates on the core theories, theoretical application scenarios, influencing factors, and research methods, laying the foundation for subsequent analysis and strategy proposals.

The integration of agriculture, culture, and tourism is an industrial synergy model that relies on rural agricultural resources, cultural resources, and tourism resources to achieve "agricultural foundation building, cultural empowerment, and tourism monetization" through element restructuring. The academic community defines it into three categories: one is the "industrial integration theory", which emphasizes the extension of the value chain between agriculture and cultural tourism industries; The second is the "functional integration theory", which focuses on the superposition of production, life, and ecological functions; The third is the theory of "subject integration", which focuses on the collaborative participation of the government, enterprises, and villagers. Based on the practice in Qingdao, this article defines it as a compound development model that aims to revitalize rural areas, improve agricultural efficiency, preserve cultural heritage, and increase tourism income through resource integration, facility support, and service upgrading [1].

The integration of agriculture, culture, and tourism in public service support is the core component of the rural revitalization strategy's implementation. Its essence lies in meeting the dual needs of tourists and villagers by integrating agricultural, cultural, and tourism elements through the synergy of "facility hardware+service software+operation mechanism", thereby achieving both public welfare and industrial adaptability [2].

The supporting facilities for agricultural, cultural, and tourism public services are a public welfare and quasi public welfare system that supports integrated development. Unlike general rural public services, these services focus on the basic needs of villagers and urban tourism, emphasizing the tourist experience. They have the characteristics of "host guest sharing, format adaptation, and dynamic adjustment". The academic research on its composition can be divided into two categories: one is the "facility-oriented theory", which equates it with hardware facilities such as transportation and toilets; The second is the "system-oriented theory", emphasizing the three-dimensional system of "facilities+services+mechanisms". This article, based on the practice in Qingdao, defines it as "facilities such as transportation and logistics, cultural tourism experience, digital services, public health, and supporting operation management, talent support, and policy guarantee system provided for the integration of agriculture, culture, and tourism in the region"[3].

The core theories underlying research on the integration of agriculture, culture, and tourism in Qingdao's public service support include rural revitalization theory, public service supply theory, industrial chain integration theory, and sustainable development theory [4, p. 15].

1. The guiding value of rural revitalization theory is reflected in three dimensions: industry, space, and subject.

Industry dimension: Value added can be achieved through the restructuring of "agriculture+culture and tourism" elements, such as the integration of "red culture and tourism+ecological agriculture" in Yangjiashan. By 2024, tourism revenue is expected to reach 120 million yuan, generating employment for approximately 1,200 people.

Spatial dimension: Through the balanced layout of public service facilities such as rural roads and tourist centers, the urban-rural dual structure will be broken. By 2025, the density of rural roads in Qingdao will reach 1.2 kilometers per square kilometer, an increase of 38% compared to 2020;

Subject dimension: Emphasizing the collaborative participation of the government, enterprises, and villagers, Yangjiashan Village has driven more than 1200 villagers to directly participate in cultural and tourism services through the "Party organization-led

cooperative" model, with an average annual income increase of 15000 yuan per household [5, p. 81].

2. The theory of public service supply is the core tool for analyzing the quality of supporting public services. This theory believes that the quality of public services depends on the synergy of "supply subject, supply mode, and demand matching degree". Traditional public service supply, with the government as the sole entity, can easily lead to problems such as "heavy construction over operation" and "supply-demand mismatch". The theory of modern public service supply emphasizes the construction of a diversified collaborative system of "government led, market operated, and social participated", which has been validated in the practice of agriculture, culture, and tourism in Qingdao.

In terms of government led public welfare services, Qingdao will invest 1.2 billion yuan in agricultural, cultural, and tourism public services from 2024 to 2025, of which 70% will be invested in rural roads, public toilets, and other public welfare facilities to ensure full coverage of basic services; In the profitable service sector of market operation, enterprises such as Huaying Culture and Tourism and Qingdao Haifa Group are introduced to operate profitable facilities such as homestays and study bases. By 2024, the investment return rate of agricultural cultural and tourism projects participated in by enterprises will reach 12.5 [6].

At the level of social participation, supplementary services, Qingdao cultivates the Qingdao Rural Cultural and Tourism Volunteer Association, which will recruit 3200 volunteers by 2025 to provide supplementary services such as tour guide explanations and cultural inheritance, covering 60 rural tourism sites. In addition, the theory of "host guest sharing" emphasizes breaking down the service boundaries between residents and tourists. In 2025, Qingdao will pilot a composite facility of "village activity center+tourist service station" in Xiazhuang Street, Chengyang, which will serve tourists during the day and provide cultural activities for villagers at night. The utilization rate of the facility has increased from 45% to 82%, confirming the practical value of this theory.

The theory of industrial chain integration reveals the inherent mechanism of agricultural, cultural, and tourism integration. This theory suggests that industrial integration facilitates the reorganization of elements across different industries through

"technology penetration, business innovation, and value chain extension." The integration of agriculture, culture, and tourism is essentially a collaborative industry chain that supports agriculture, empowers cultural values, and activates the tourism market. Public service support is the infrastructure that runs through all links of the industry chain [7, p. 167].

The pre production process needs to improve transportation and logistics, such as the integration of passenger, freight, and mail stations and digital information services in Qingdao, such as the "Qingdao Rural Cultural and Tourism Cloud" platform, to ensure the timely transportation of agricultural products such as grapes and cherries and the accurate delivery of cultural and tourism information. By 2024, the logistics loss rate of agricultural, cultural, and tourism products in Qingdao will be reduced to 8.5%, a decrease of 12 percentage points from 2020 [8].

In the production process, it is necessary to establish comprehensive tourism experience facilities, such as non corpse inspection halls, agricultural experience parks, and agricultural production services, such as green planting technology guidance, to improve the quality of product supply. Qingdao will build 35 intangible cultural heritage experience halls by 2024, driving a 40% increase in sales of intangible cultural heritage products. Ошибка! Источник ссылки не найден.

The postpartum stage needs to strengthen commercial circulation, such as agricultural specialty product exhibitions and sales centers, and brand marketing services, such as rural tourism festivals, to achieve value conversion. In 2025, the Qingdao "Cherry Picking Festival" is expected to drive sales to exceed 230 million yuan through online live streaming, representing a 53% increase from 2024. The "Three Integration" model in Qingdao City: the integration of transportation, transportation, road production, and passenger, freight, and postal services is the localized application of the theory of industrial chain integration. Rural roads connect 48 "one village, one product" demonstration villages and 52 geographical indication agricultural product production areas, forming a closed loop of the industrial chain of "road+industry+cultural tourism". By 2024, this model is expected to drive the output value of related industries to exceed 6 billion yuan [6].

4. The theory of sustainable development provides valuable guidance for public service support, emphasizing the dialectical unity of economic development, social progress, and ecological protection, and requiring agricultural, cultural, and tourism public service support to balance short-term benefits and long-term development. The Ithaca Ecological Village in the United States has achieved synergy between agricultural production and ecological protection through the concept of "sustainable cultivation" and the green small and micro economy model. Its experience provides inspiration for Qingdao in three aspects:

At the level of synchronous construction of ecological facilities, Qingdao will build 120 sewage treatment stations and 85 garbage classification and recycling stations in the agricultural, cultural, and tourism integration areas from 2024 to 2025. The domestic sewage treatment rate will reach 100%, and the harmless treatment rate of garbage will reach 98% [9, p. 215].

In promoting the green service model, the low-carbon transportation option of "electric sightseeing vehicles+hiking trails" combined with hiking trails will be highlighted. Yangjiashan Village plans to deploy 50 electric sightseeing vehicles by 2024, resulting in a reduction of 120 tons of carbon emissions.

In terms of realizing the value of ecological products, relying on the ecological resources of Laoshan and Zangmashan, we will develop "forest health and wellness" and "ecological research" products. By 2024, the proportion of ecological tourism revenue is expected to reach 35%, representing an 18 percentage point increase from 2020 [10, p. 47].

Key influencing factors of public service support: Based on the practice in Qingdao, the effectiveness of agricultural, cultural, and tourism public service support is constrained by four major factors, and their shortcomings directly lead to a mismatch between supply and demand (Table 1.1).

The design of research methods is the key to ensuring the scientificity of research, which requires the collaborative construction of a complete logical chain of "theoretical construction empirical analysis strategy proposal" through multiple methods, including

literature research method, case analysis method, quantitative analysis method, and comparative research method/

Table 1.1 - Key influencing factors and shortcomings of agricultural, cultural and tourism public service supporting facilities in Qingdao in 2025

| Influencing factors        | Core connotation                                                                                 | Shortcomings in Qingdao Practice (2025 Data)                                                                                                      | specific manifestations                                                                                                                                                     |
|----------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Facility supply efficiency | Facility coverage, construction standards, and utilization efficiency                            | Third-class highway in remote villages account for 70%, lower than 80% of the city                                                                | The express delivery time in Pingdu Old Store Town is 48 hours, which is 24 hours slower than the city center                                                               |
| Service adaptability       | The degree of matching between facilities and the agricultural, cultural, and tourism industries | The coverage rate of health and wellness facilities is only 30%, which is lower than the 80% coverage rate of red cultural and tourism facilities | The proportion of health and wellness income in Zangma Mountain is 15%, which is 30% lower than expected                                                                    |
| Operational synergy        | Collaboration and interest linkage among multiple stakeholders                                   | Enterprises' investment in public welfare facilities accounts for only 15%                                                                        | The per capita increase in cultural and tourism income of villagers in Jiudian Town, Pingdu is 800 yuan, which is lower than the 15000 yuan increase in Yangjiashan Village |
| Digital Empowerment Level  | Digital infrastructure and intelligent service capabilities                                      | The 5G coverage rate in remote rural areas is 55%, which is lower than the city's 75%                                                             | 20% of agricultural product live broadcasts lose orders due to network lag                                                                                                  |

Source: grouped by author according to data [2]

1. Literature research method: Using databases such as CNKI, Web of Science, and Wanfang, a systematic review was conducted on 40 Chinese and English literature in the fields of rural revitalization, integration of agriculture, culture, and tourism, and public service supply from 2019 to 2025. The literature analysis focused on three dimensions: reviewing the development process of public service supply theory from a single subject to multiple collaborations, extracting typical models of supporting agricultural, cultural, and tourism public services at home and abroad, clarifying the shortcomings of existing research in the application of the latest data and regional targeted analysis from 2024 to 2025, and providing a basis for research positioning [11, p. 101].

2. The case analysis method takes six typical agricultural, cultural, and tourism integration areas in Qingdao as the research objects, and obtains first-hand information

through field research, in-depth interviews, and field observations from July to August 2025. The case selection follows the principle of "full coverage of types and stage differentiation", and the research focuses on the entire process of facility "construction operation use", comparing and extracting common problems and individual characteristics [12, p. 37].

3. Quantitative analysis method is used to construct a three-dimensional evaluation system of "facilities services operations", consisting of 4 primary indicators and 12 secondary indicators. The data sources include the official bulletin of Qingdao City in the first half of 2025 and 1500 valid questionnaires (reliability  $\alpha=0.89$ ). Using SPSS 26.0 analysis: Through correlation analysis, it was found that transportation accessibility ( $r=0.78$ ), digital coverage ( $r=0.65$ ), and tourist satisfaction are strongly positively correlated; By conducting regression analysis to calculate the impact coefficient of digital services on tourism revenue, quantitative support is provided for strategy proposal .

4. Comparative research method is used to horizontally compare the cases of "school land cooperation" in Zhangqiu, Jinan, "village autonomy" in Anji, Zhejiang, and "community led" ecological villages in Esperanto, USA, and extract the experience of "diverse collaboration and ecological priority" ; Vertically sorting out the changes in Qingdao's indicators from 2020 to 2025 (Figure 1.1).

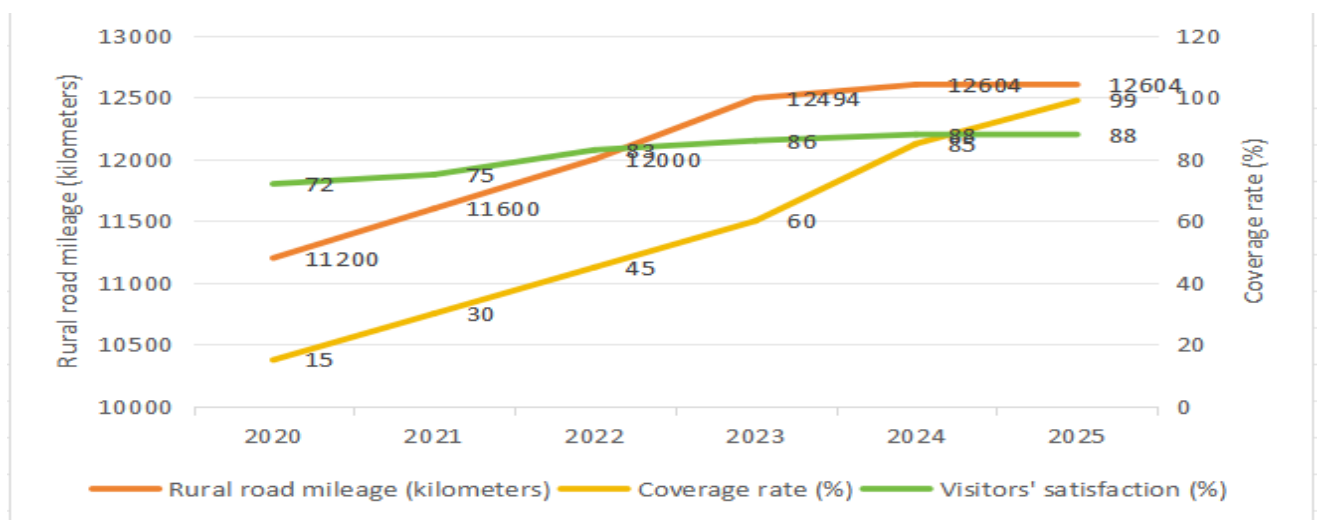


Figure 1.1 - Qingdao Agricultural Culture Tourism Public Service Support Key Indicator Change Trend Chart, 2020-2025

Source: Qingdao Municipal Statistics Bureau and Culture and Tourism Bureau Annual Report

Analyzing policy evolution, the promotion of the "integration of transportation and tourism" pilot in 2022, and the promotion of "host guest sharing" in 2024 to promote the supporting system, providing a basis for trend prediction.

This study is supported by four major theories and forms a logical chain of "theoretical construction empirical analysis strategy proposal" through the synergy of four methods. It not only lays the theoretical foundation through literature research, but also relies on case studies and quantitative analysis to explore practical problems in Qingdao. Finally, combined with comparative research, an optimization path is proposed to provide scientific support for the theoretical improvement and practical implementation of public service support for agriculture, culture, and tourism.

## CHAPTER 2

### ANALYSIS OF DEVELOPMENT STATUS AND CHALLENGES IN MANAGEMENT SERVICE INFRASTRUCTURE FOR AGRICULTURAL- CULTURAL-TOURISM INTEGRATION IN QINGDAO

#### 2.1 Policy environment and development foundation

Shandong Province's policy guidance: Shandong Province has established a multi-tiered policy framework for integrating agriculture, culture, and tourism, featuring a "provincial planning + municipal implementation + county-level innovation" system:

Provincial Level: In 2024, the province issued the "Implementation Guidelines on Deepening the Experience of the Ten Million Villages Project to Promote Comprehensive Rural Revitalization," setting targets to establish 100 provincial-level demonstration zones for agricultural, cultural, and tourism integration and achieve an over 90% compliance rate in public service facilities by 2025. A 2 billion yuan provincial special fund for agricultural, cultural, and tourism development was established, with 15% allocated to public service infrastructure. By 2025, the "Shandong Rural Tourism Public Service Standards" will be released, regulating construction standards for 12 facility categories, including visitor centers, tourist toilets, and traffic signage. Key requirements include "one tourist toilet per 5,000 visitors" and "visitor centers must be equipped with AED emergency devices.

Regional Synergy: Developing five cross-provincial rural tourism corridors featuring Yellow River folk customs, Grand Canal culture, and Great Wall villages. Qingdao, as the core city of the "Coastal Rural Tourism Belt", shares transportation and logistics resources with Yantai, Weihai, and other cities. In 2024, Qingdao, Yantai, and Weihai jointly launched the "Coastal Agriculture-Culture-Tourism Special Line," featuring 15 daily shuttle services, which drove a 30% increase in cross-city tourist visits [4].

Data Support: In 2024, Shandong Province's integrated agricultural, cultural, and tourism zones welcomed 520 million visitors, generating a total consumption of 275 billion yuan. Qingdao City accounted for 18% of the total tourist numbers and 22% of the total consumption. The area with comprehensive public services achieved a 45% repeat visit rate, 18 percentage points higher than the provincial average.

Policy System of Qingdao City: Positioned as the "Pilot Zone for Rural Revitalization Qilu Model", Qingdao has established a policy framework integrating "planning guidance, interdepartmental coordination, and innovation incentives". The policy evolution has unfolded through three distinct phases (Table 2.1).

Table 2.1 - Evolution of Public Service Policies for Agriculture, Culture, and Tourism in Qingdao, 2022 - 2025

| Stage                        | Time range | Core policy documents                                                                                      | Policy priorities                                                                                                                       | Implement achievements                                                                                     |
|------------------------------|------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Pilot exploration period     | 2022-2023  | 《Qingdao Agricultural, Cultural and Tourism Integration Pilot Work Plan》                                   | Select five pilot zones to implement the integration of transportation and tourism, as well as passenger, freight, and postal services. | The number of tourists in the pilot area increased by 25%, and the coverage rate of facilities reached 65% |
| Promotion and Upgrade Period | 2024       | 《Construction Plan of National Cultural and Tourism Integration Demonstration Zone in West Coast New Area》 | Promote shared facilities and digital service platforms for both hosts and guests                                                       | The number of demonstration areas has increased to 12, and 5G coverage has reached 68%                     |
| Full-depth deepening         | 2025       | 《Qingdao Rural Culture and Tourism Public Service Comprehensive Upgrade Plan》                              | Standardization of facilities, precision of services, and marketization of operations                                                   | The rural road reaches 12,860 kilometers, and the tourist satisfaction rate is 88%                         |

Source: Official statistics from Qingdao Municipal Bureau of Agriculture and Rural Affairs, Qingdao Municipal Bureau of Culture and Tourism, and Qingdao Municipal Bureau of Industry and Information Technology

The 2025 policy rollout features three key innovations:

**Strategic Planning:** The 'Qingdao Agricultural, Cultural, and Tourism Public Service Spatial Layout Plan (2025-2030)' outlines a three-dimensional framework comprising 'one core (main urban area), three belts (coastal, mountainous, and revolutionary heritage zones), and multiple demonstration villages'. Public service facilities are required to be at least 0.8 units per square kilometer in the core area and 0.5 units per square kilometer in the extended zones.

**Departmental Coordination:** The municipal government established a "Public Service Coordination Group for Agriculture, Culture, and Tourism" led by a deputy mayor, integrating resources from 12 departments including culture, tourism, agriculture, transportation, and urban development. A mechanism of "monthly coordination meetings, quarterly inspections, and annual evaluations" was implemented. By 2025, 32 cross-departmental issues had been resolved, such as connecting rural roads with cultural tourism routes and coordinating express delivery services in villages with agricultural product marketing.

**Innovation orientation:** Encourage the new model of "government-led+ industry supervision+state-owned enterprise operation". For example, Qingdao Haifa Group is responsible for the operation of facilities in 12 demonstration areas. In the first half of 2025, the operating income reached 180 million yuan, 20% lower than the government's single operating cost.

The foundation of agricultural, cultural and tourism development in Qingdao: Qingdao City boasts superior agricultural, cultural, and tourism resources with a solid industrial foundation, providing robust support for public service facilities.

**Resource Base: Agricultural Resources.** In 2024, the city maintained 250,000 mu of high-standard farmland, achieving a total grain output of 3.15 million tons, with vegetable production reaching 4.18 million tons, fruit output at 750,000 tons, and meat/egg/milk production at 830,000 tons. **Cultural resources:** 120 heritage sites including the Qi Great Wall, Jiaodong traditional villages, and revolutionary historical sites, along with 86 intangible cultural heritage items such as Jiaozhou Yangge folk dance and Laoshan Taoism. **Tourism resources:** 15A-level scenic area, 234A-level scenic spots,

and 15 provincial-level key rural tourism villages, forming a diversified resource pattern of "mountain islands, sea cities, agriculture, commerce, culture, and tourism".

Table 2.2 - Core Data on the Integration of Agriculture, Culture, and Tourism in Qingdao by Region, 2024-2025

| Area type                 | Quantity (units) | 2024 tourist volume (10,000) | 2024 revenue (in 10,000 yuan) | Number of tourists during May Day holiday in 2025 (in 10,000) | Income in May 2025 (in 10,000 yuan) | Year-on-year growth (visitors/revenue) |
|---------------------------|------------------|------------------------------|-------------------------------|---------------------------------------------------------------|-------------------------------------|----------------------------------------|
| Binhai Fishing Village    | 3                | 125                          | 24800                         | 18.5                                                          | 1980                                | 48.2%/56.5%                            |
| Mountain Ecological Zone  | 4                | 180                          | 35200                         | 26.8                                                          | 2850                                | 46.8%/54.2%                            |
| Red cultural tourism area | 2                | 85                           | 16500                         | 12.3                                                          | 1560                                | 50.2%/58.8%                            |
| Folk Culture Area         | 3                | 68                           | 9500                          | 9.2                                                           | 780                                 | 45.6%/52.1%                            |
| Total                     | 12               | 458                          | 86000                         | 66.8                                                          | 7170                                | 48.0%/56.2%                            |

Source: The Qingdao Municipal Bureau of Culture and Tourism and the Qingdao Municipal Bureau of Agriculture and Rural Affairs jointly compiled the "Qingdao Agricultural, Cultural and Tourism Integration Development Zone Annual Operation Report (2024)"

Industrial Foundation: In 2024, Qingdao's rural tourism revenue exceeded 8.5 billion yuan, marking a 16.2% year-on-year increase from 2023. The city cultivated 520 agri-culture-tourism enterprises, including 86 large-scale enterprises, developing four core sectors: "Red Education, Coastal Tourism, Mountain Wellness, and Folk Culture Experiences". Popular destinations like Yangjiashanli and Zangmasan attracted over 500,000 annual visitors.

Infrastructure Development: By the first half of 2025, rural road networks spanned 12,860 kilometers, with 78% classified as third-grade or higher roads. The system included 712 integrated passenger, freight, and postal service stations covering 88% of

administrative villages, 58 tourist information centers, 320 public restrooms, and 5G coverage for 75% of agriculture-tourism zones, establishing a robust hardware foundation for public service upgrades.

2.2 Analysis of the Current Status of Management Service Facilities

Transportation and Logistics Services: Guided by the 'Mountain-Sea Road Charm • Smooth and Beautiful Qingdao Journey' brand, Qingdao has pioneered an innovative model integrating transportation, tourism, industry, logistics, passenger transport, freight, and postal services. The city's transportation and logistics services have been steadily improving, with core indicators in the first half of 2025 showing significant improvement compared to 2024 (Table 2.3).

Table 2.3 - Comparison of Core Indicators for Agricultural, Cultural, Tourism, Transportation, and Logistics Services in Qingdao City, 2024-2025

| Indicator                                                    | 2024 data         | Data for the first half of 2025  | Year-on-year change           | Target value (end of 2025) |
|--------------------------------------------------------------|-------------------|----------------------------------|-------------------------------|----------------------------|
| Total rural road mileage                                     | 12600 kilometers  | 12860 kilometers                 | Growth of 2.1%                | 13000kilometers            |
| Proportion of highways of grade III or above                 | 75%               | 78%                              | Growth of 3 percentage points | 80%                        |
| Number of integrated passenger, freight, and postal stations | 668 piece         | 712 piece                        | 6.6% growth                   | 750piece                   |
| Express delivery to villages                                 | 48hour            | 36hour                           | Shorten by 25%                | 24hour                     |
| Rural express delivery volume                                | 8.1 billion items | 450 million pieces (half a year) | Growth of 12.5% (half-year)   | 900 million items          |
| Number of special buses for agriculture, culture and tourism | 28items           | 35items                          | 25% growth                    | 40items                    |

Source: Qingdao Municipal Bureau of Culture and Tourism Statistical Bulletin, Qingdao Municipal Bureau of Agriculture and Rural Affairs Market Monitoring Report, Third-party Evaluation Report

**Transportation-Culture Integration:** 230 kilometers of ecological landscape corridors were constructed, representing a 15% increase from 2024. Eighteen premium "rural roads + self-driving" routes were launched, including three new ones connecting core cultural tourism resources like Laoshan and Zangmasan. For instance, Wanggezhuang Subdistrict in Laoshan developed a "coastal road+ fishing village experience" route featuring 12 viewing platforms and 8 rest stops. During the 2025 May Day holiday, this route attracted 82,000 self-driving tourists, accounting for 68% of the total tourist volume in the area.

**Industry-Road Integration:** Rural roads connect 48 "one village, one product" demonstration villages with 52 geographical indication agricultural product production areas. The Dazeshan grape production area achieved 1-hour direct access between picking gardens and urban centers through road upgrades. In 2024, grape sales increased by 40% while logistics costs decreased by 18%.

**Passenger-Cargo-Postal Integration:** Six county-level express park zones were established, with one newly added and 42 town-level distribution centers built. Rural delivery logistics service stations now cover 88% of administrative villages, a 2 percentage point improvement. Thirty-five integrated passenger-cargo-postal routes were launched in Jimo and Jiaozhou, promoting the "freight shuttle+passenger transport" model. By the first half of 2025, express delivery volume for agricultural products reached 120 million items, up 18% year-on-year, while spoilage rates for fresh products like cherries and grapes dropped to 8%.

Digital technology is driving logistics upgrades through the "Qingdao Rural Logistics Cloud Platform", achieving full-process visibility from "order processing to warehousing, transportation, and delivery". By 2025, the platform is expected to reach 52,000 registered users (including enterprises and farmers), with an average daily order processing capacity of 18,000 – a 20% increase from 2024. However, challenges persist in remote areas: for instance, express deliveries to Jiudian Town in Pingdu County still take 48 hours, 24 hours longer than urban areas, while logistics costs remain 15% higher.

**Cultural and tourism service facilities:** Centered around 12 municipal-level rural revitalization demonstration zones, Qingdao has progressively upgraded its cultural

tourism infrastructure, establishing a "basic services + distinctive experiences" facility system.

Basic service facilities in each zone include: 1 visitor center, 2+ parking lots, 3+ tourist toilets, and 1 medical station. By the first half of 2025, visitor centers will average 120 square meters in size, representing a 15% increase from 2024, with amenities like information desks, breastfeeding rooms, and accessible pathways. Parking spaces will average 150, up 12%, with 20% equipped with charging stations. All tourist toilets meet three-star standards, featuring hand soap, toilet paper, and drying facilities, with cleaning conducted every 2 hours during peak seasons.

**Specialized Experience Facilities:** Facilities are strategically allocated according to regional resource types (Table 2.4). For instance, Yangjiashan Village has established 13 on-site red education teaching points and 2 red culture exhibition halls, conducting over 3,200 training sessions annually that reach 650,000 participants. Zangmasan features an 8-kilometer mountain hiking trail, 5 forest wellness stations, and 3 family experience gardens, with wellness products accounting for 35% of revenue in 2024. In Jiaozhou's Ligezhuang, two Yangge (traditional Chinese folk dance) intangible cultural heritage experience centers and a folk culture square have been developed. During the 2025 May Day holiday, 12 Yangge performances will be staged, attracting 28,000 visitors.

**Festival and Study Tour Services:** In 2024, 45 distinctive events including Cherry Picking Festival, Flower Sea Tourism Festival, and Red Culture Festival were held, marking a 30% increase from 2023. During the first half of 2025, 28 such events were organized, driving a 48% surge in tourist numbers. Twelve study tour bases, including Yangjiashan Red Education Base and Zangmasan Ecological Study Tour Base, welcomed 150,000 student groups in 2024, generating 120 million yuan in study tour revenue.

**Homestays and Catering Services:** Develop 85 homestays with three-star ratings or higher, with 15 new additions planned for 2025. Among these, 10 homestays, including Courtyard Inn and Laoshan Xianju, have been awarded provincial five-star status. The "Qingdao Rural Cuisine" brand will be established, featuring 20 signature banquets such as seafood feasts and mountain vegetable banquets. Rural catering revenue is projected

to reach 3.2 billion yuan in 2024, accounting for 37% of the total agricultural, cultural, and tourism income.

Table 2.4 - Configuration of characteristic experience facilities in different types of agro-cultural tourism zones in Qingdao

| Area type                 | Core Experience Facilities                                                           | Quantity (2025) | 2024 usage frequency (10,000 times) | Tourist satisfaction |
|---------------------------|--------------------------------------------------------------------------------------|-----------------|-------------------------------------|----------------------|
| Binhai Fishing Village    | Fishery experience platform, seafood processing workshop, coastal walkway            | 32piece         | 18.5                                | 90                   |
| Mountain Ecological Zone  | Hiking trails, forest wellness stations, and picking gardens                         | 45piece         | 26.8                                | 89                   |
| Red cultural tourism area | Red exhibition halls, on-site teaching sites, and restoration of revolutionary sites | 28piece         | 12.3                                | 92                   |
| Folk Culture Area         | Intangible cultural heritage experience hall, folk square, handicraft workshop       | 22piece         | 9.2                                 | 87                   |

Source: Qingdao Municipal Bureau of Culture and Tourism Statistical Bulletin

**Digital and Information Services:** Qingdao has actively promoted the construction of digital villages to provide information support for the integration of agriculture, culture, and tourism. The coverage and functions of digital services have been significantly improved in 2024-2025.

**Smart Service Platform:** Yangjiashanli has pioneered the "Digital Village One Map" initiative, integrating industrial development, rural governance, and cultural tourism services. Through the "Yiyou Shanyi" mini-program, visitors can access route navigation, attraction guides, and booking services. By the first half of 2025, the platform had attracted 32,000 active users with 15,000 bookings. Citywide efforts are advancing the "Qingdao Rural Cultural Tourism Cloud" platform, scheduled for trial launch in June 2025. Currently, it is integrating real-time data from 12 demonstration zones and 58 visitor centers, providing one-stop services that cover dining, accommodation, transportation, sightseeing, shopping, and entertainment [31].

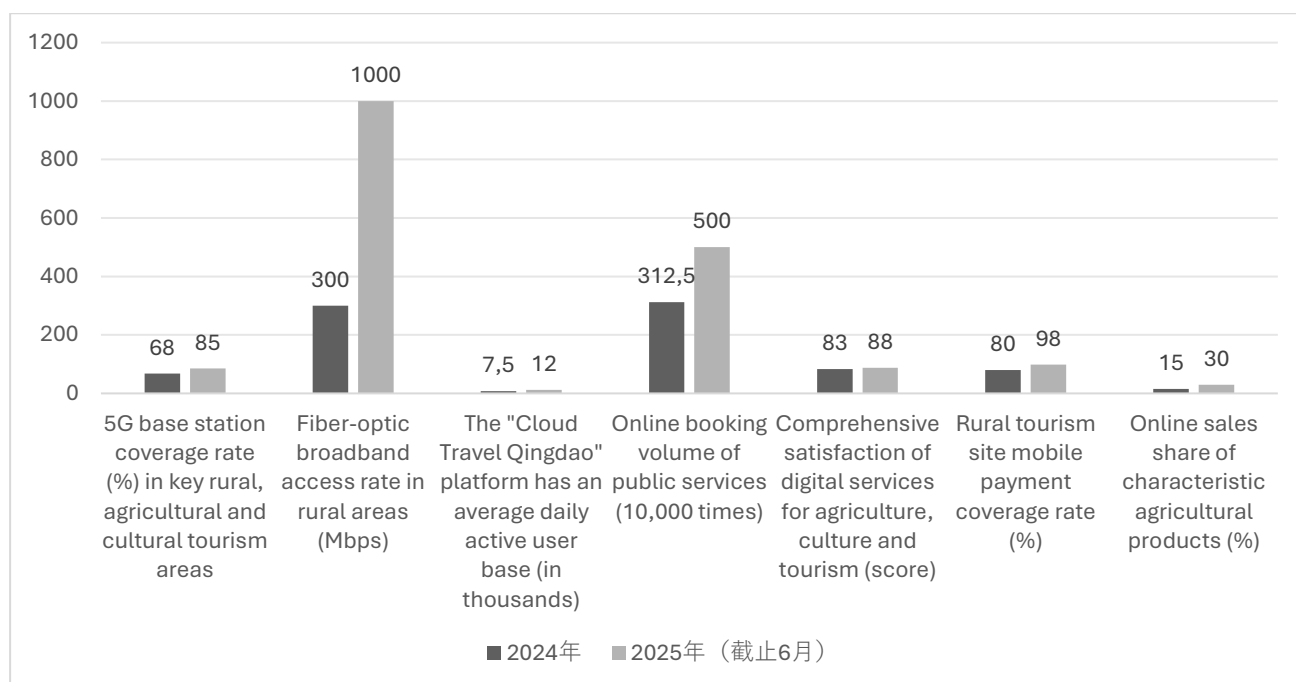


Figure 2.1 - Core indicators of digital services for agriculture, culture and tourism in Qingdao, 2024-2025

Source: Annual reports from Qingdao Municipal Bureau of Culture and Tourism, Bureau of Agriculture and Rural Affairs, Communications Administration, and other departments.

**Digital Marketing Promotion:** The West Coast New Area integrates digital culture with social e-commerce and live streaming. In 2024, it hosted the "Rural Cultural Tourism Live Streaming Festival," attracting over 50 hosts and boosting agricultural specialty sales to over 30 million yuan. During the 2025 May Day holiday, the "Cloud Tour Qingdao Countryside" live streaming event reached 2.8 million viewers, driving 52% growth in online bookings.

**Smart Management and Maintenance:** Leveraging AR/VR panoramic command systems and intelligent defect detection, rural road overloading rates decreased by 92% compared to 2024, while the proportion of roads with excellent/mid technical condition index rose to 94%. Some scenic spots introduced smart tour guide robots and online reservation systems. For instance, Zangmasan Tourism Resort achieved 65% online booking rate during the 2025 May Day holiday, effectively easing on-site ticketing pressure.

Digital Skills Training: In 2024,2,000 people received digital skills training, with 3,500 trained in the first half of 2025. Training covered live streaming sales, platform operations, and smart device usage, cultivating 120 rural "digital experts." Notably, the "Seafood Live Streamers" team from Wanggezhuang Subdistrict in Laoshan achieved annual sales exceeding 50 million yuan.

Public service providers: Qingdao has gradually broken the single supply mode of the government, forming a diversified and collaborative pattern of "government-led, enterprise participation, village collective linkage and social supplement" (Figure 2.2). By 2025, the proportion of investment and functional division of each subject are clear:

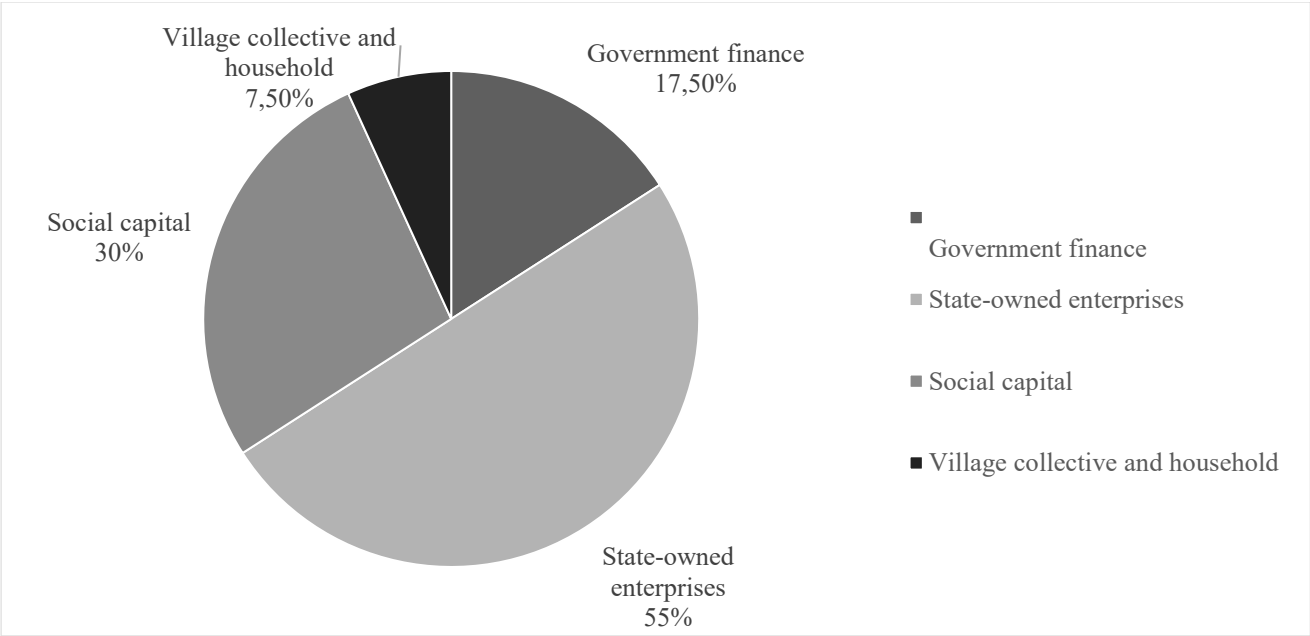


Figure 2.2 - The input share of public service providers in Qingdao's rural cultural tourism in 2025

Source: Qingdao Municipal Government Key Projects, Qingdao Municipal Finance Bureau 2024-2025 Budget Report

Government Level: Fulfilling planning guidance and foundational support functions, the government allocated 1.2 billion yuan in fiscal investment for agricultural, cultural, and tourism public services from 2024 to 2025, with 70% directed toward rural roads, public toilets, and other public welfare facilities. The "Qingdao Agricultural, Cultural, and Tourism Public Services Assessment Measures" was formulated, incorporating indicators such as facility coverage and tourist satisfaction into district

performance evaluations. Two inspections were conducted in the first half of 2025, with 18 issues resolved.

**Enterprise Level:** Leveraging market-oriented and professional advantages, enterprises participated in facility construction and operations. For instance, Qingdao Haifa Group managed tourist centers and parking lots in 12 demonstration zones, generating 180 million yuan in operating revenue during the first half of 2025. Huaying Cultural Tourism handled the planning and management of Yangjiashanli Red Exhibition Hall, receiving 250,000 annual visitors. The introduction of homestay brand "Yinju Xiangli" created a high-end homestay cluster, achieving 45% revenue growth in 2024.

**Village Collective Level:** Through Party-led cooperatives, Yangjiashanli established the "Strong Village Common Prosperity Company" to integrate idle residential properties and land resources from eight natural villages. This initiative formed production-sales partnerships with 22 enterprises, generating 12 million yuan in profits in 2024 and increasing villagers' per-household income by 15,000 yuan. Xishigou Village in Chengyang Xiaozhuang Subdistrict established a cultural tourism cooperative, organizing villagers to provide catering and tour guide services. The cooperative's income reached 850,000 yuan during the May Day holiday in 2025.

**Social Dimension:** Volunteers and NGOs provide supplementary services. The Qingdao Rural Cultural Tourism Volunteer Association will recruit 3,200 volunteers in 2025 to offer tour guiding, cultural preservation, and emergency assistance across 60 rural tourism sites. Meanwhile, Qingdao University's School of Cultural Tourism has established a "Rural Service Think Tank" to provide planning and design services along with talent training for 15 villages, having completed eight planning proposals by 2024.

## **2.3 Evaluation of management service supporting for the integration of agriculture, culture, and tourism in Qingdao**

**Insufficient supply-demand matching :** There is a significant mismatch between the supply of public services and the development needs of agriculture, culture and

tourism. Through 1,500 tourist questionnaires in the first half of 2025 (Table 2.5), it is found that the "three more and three less" problems are prominent:

Table 2.5 Survey Results on Supply-Demand Alignment of Public Services for Agriculture, Culture, and Tourism in Qingdao in 2025

| Service Type                   | Supply is abundant (%) | Supply and demand match (%) | Insufficient supply (%) | Very low (%) | Feedback on key issues                                                                                    |
|--------------------------------|------------------------|-----------------------------|-------------------------|--------------|-----------------------------------------------------------------------------------------------------------|
| transportation                 | 70                     | 22                          | 7                       | 1            | Roads in remote villages are narrow (35%) and congested in peak season (28%)                              |
| Accommodation                  | 38                     | 25                          | 32                      | 5            | There are few high-end homestays (42%) and homogeneity of specialty restaurants (35%)                     |
| Culture and travel experiences | 43                     | 34                          | 20                      | 3            | The study program is monotonous (48%) and the cultural experience is superficial (32%)                    |
| Digital Services               | 32                     | 38                          | 27                      | 3            | Weak network in remote villages (52%) and incomplete smart functions (38%)                                |
| Public Health                  | 75                     | 20                          | 4                       | 1            | 65% of peak season toilets lack timely cleaning, and 25% of medical stations have insufficient medicines. |
| Night service                  | 18                     | 25                          | 45                      | 12           | Insufficient night lighting (58%) and few recreational facilities (42%)                                   |

Source: Joint research data of Qingdao Municipal Bureau of Agriculture and Rural Affairs and Bureau of Culture and Tourism in 2025

Numerous basic facilities but limited quality services: Most rural areas have basic infrastructure like roads and toilets, yet high-end homestays, specialty dining, and immersive experiences remain scarce. By 2025, Qingdao City will have only 85 three-star or higher homestays, accounting for 28% of the total, significantly lower than Anji County in Zhejiang Province's 55%. Rural restaurants account for 45% as "homemade eateries," lacking distinctive offerings like intangible cultural heritage cuisine and wellness dining. The average tourist spending on dining is merely 85 yuan, 40% lower than urban cultural tourism projects.

**Government-dominated supply with limited market participation:** Cultural tourism services in remote rural areas remain predominantly government-funded, lacking professional management. In regions like Pingdu Jiudian Town and Laixi Jiangshan Town, 90% of visitor centers are directly operated by the government, with insufficient market-oriented marketing and service innovation. The 2024 repeat visit rate stood at merely 25%, 20 percentage points lower than Yangjiashanli's 45%. Social organizations face limited engagement channels: Qingdao has only 15 local cultural tourism NGOs, 80% concentrated in urban areas, with rural coverage below 25%. Volunteer services are mainly available during peak seasons, leaving a 60% service gap in off-seasons.

**Seasonal supply shortages and resource idleness:** The seasonal nature of agricultural, cultural, and tourism development results in uneven distribution of public service facilities. During the 2025 May Day holiday, Yangjiashanli's homestays achieved 100% occupancy rate, with 30% parking space shortages and queues exceeding 20 minutes at tourist toilets. In contrast, during January-February off-seasons, homestay occupancy dropped to 18%, daily visitor centres handled fewer than 50 people, 30% of tourist toilets were temporarily closed due to low usage, and facility idleness reached 65%.

**Daytime services dominate with nighttime deficiencies:** Most areas lack nighttime cultural tourism facilities. A 2025 survey revealed only 25% of areas have nighttime lighting or cultural venues, while 75% of tourists reported "no nighttime activities in rural areas." Nighttime consumption accounts for merely 15%, significantly lower than the 40% nighttime consumption rate in advanced regions like Chengdu.

**Uneven coverage of regions and business formats:** Public service facilities exhibit significant spatial distribution gaps and inadequate industry compatibility, resulting in a "surplus in some areas, shortage in others" and "complete infrastructure in some sectors, insufficient support in others" phenomenon.

**Regional disparities are striking:** While transportation logistics and digital services cover over 90% of rural areas near the main urban district (e.g., Chengyang Xia Village and Laoshan Wangge Village), remote villages like Pingdu Jiudian and Laixi Hetoudian show only 68% coverage of rural delivery logistics stations and 55% 5G signal

penetration. With network bandwidth below 100M, these areas cannot meet digital cultural tourism demands such as live-streaming sales and online reservations. Data from the first half of 2025 reveals a 12-percentage-point gap in tourist satisfaction: 92% in main urban areas versus 80% in remote regions.

**Poor Industry Adaptability:** Traditional sectors, such as agritourism and revolutionary education, enjoy relatively comprehensive supporting facilities, while emerging industries, including wellness retreats, intangible cultural heritage (ICH) studies, and nighttime cultural tourism, lack adequate service infrastructure. For instance, Jiaozhou City's ICH Workshop lacks basic exhibition facilities, professional experience equipment, and mentorship from inheritors, attracting fewer than 20,000 visitors in 2024 – far below the 600,000 visitors of Yangjiashanli Revolutionary Education Base. Although Zangmasan Wellness Zone boasts ecological resources, it lacks medical rehabilitation equipment, health monitoring instruments, and professional wellness personnel. In 2024, wellness product revenue accounted for only 15% of the zone's total income, falling short of the 30% target [17].

**Lagging Facility Maintenance:** Some public service facilities have deteriorated due to inadequate routine maintenance. A 2025 mid-year inspection revealed that 15% of county and township roads showed cracks and potholes, 20% of tourist toilets had malfunctioning equipment, and 18% of visitor center display boards contained outdated information, such as incorrect opening hours for attractions. The primary cause is insufficient maintenance funding, with remote rural areas receiving an average annual maintenance budget of only 50,000 yuan – 67% lower than the 150,000 yuan allocated to villages near urban centres.

**Low functional diversity:** Most facilities have limited purposes, lacking multi-functional designs. For example, rural roads are solely used for transportation without incorporating cultural and tourism elements like viewing platforms or rest areas. Cultural squares are exclusively for villagers' activities without visitor services. The average facility utilization rate is merely 45%, 37 percentage points lower than the 82% in the "shared use" pilot zones.

**Weak digital empowerment:** Digital public services face issues of "overemphasis on construction at the expense of application" and "hardware-centric development with insufficient software support". The current level of smart integration lags significantly behind the demands of agricultural, cultural, and tourism convergence. A 2025 survey reveals that 35% of tourists feel "digital services fail to meet their expectations".

**Infrastructure gaps persist:** While rural logistics digital systems and smart tourism platforms have been established, remote villages still lack adequate digital infrastructure. Data from the first half of 2025 shows 55% coverage of 5G signals in remote areas, 20 percentage points below the citywide average. Network bandwidth in some regions remains below 100Mbps, causing frequent lag during live-streaming sales. Network issues have resulted in order losses for 20% of agricultural product livestreams.

**Limited service features:** Most rural smart platforms only provide basic information queries such as attraction introductions and route navigation, lacking advanced functions like personalized recommendations, intelligent tour guidance, online complaints, and data analysis. Although the "Qingdao Rural Cultural Tourism Cloud" platform has been launched, only 30% of users have utilized its "customized route planning" feature, while 60% report the platform's simplistic functions fail to address practical needs.

**Insufficient data sharing:** Data silos exist between transportation, tourism, agriculture, and meteorological departments. For instance, while the tourism department maintains visitor count data and the transportation department tracks road traffic, these systems lack real-time integration. This disconnect caused inaccurate crowd forecasts during the 2025 May Day holiday peak season, resulting in a 2.5-hour traffic jam on a road in Wanggezhuang Subdistrict, Laoshan County due to delayed congestion management, ultimately compromising tourist experiences.

**Digital Talent Shortage:** Rural areas face a critical shortage of hybrid professionals proficient in both digital technology and cultural tourism operations. Data from 2025 show that only 12% of agricultural, cultural, and tourism practitioners possess digital skills, significantly lower than the 45% rate among their urban counterparts. In regions like Yangjiashanli and Zangmasan, the operation of smart platforms requires hiring

professional teams from urban areas, resulting in monthly operational costs increasing by 30,000 yuan. This financial burden hinders the sustainability of digital services.

**Single-operation mechanism:** The multi-source supply mechanism remains underdeveloped, with the government still overburdened by excessive public service responsibilities. Market and social participation lack sufficient incentives, and the interest alignment mechanism is incomplete.

**High government dependency persists:** In Qingdao's 2025 agricultural, cultural, and tourism public service investment plan, government funds account for 45%, corporate investments 30%, and social donations/volunteer services 10%. Enterprises exhibit a "profit-first, public welfare-second" bias, focusing primarily on profit-driven sectors like homestays and catering services while underinvesting in rural infrastructure such as roads and public toilets. In 2024, corporate investments in public welfare facilities accounted for only 15% of total expenditures.

**Weak benefit-sharing mechanisms:** Villagers' participation in public service provision and benefit-sharing rates remain low. Only 40% of rural areas in the city have implemented the "villagers participate in service provision—share benefits" mechanism. For instance, in Pingdu Jiudian Town's apple orchard, while government-built public facilities exist, villagers neither manage operations nor benefit financially. In 2024, their per capita cultural tourism income was merely 800 yuan, far below Yangjiashanli's 15,000 yuan.

**Insufficient policy support:** The absence of dedicated subsidies and incentive policies for public services in agriculture, culture, and tourism, coupled with inadequate implementation of tax incentives and land use support for enterprise participation. A 2025 survey revealed that 35% of participating enterprises reported "insufficient policy support". For instance, cultural tourism enterprises cannot enjoy tax reductions when constructing public welfare facilities, while the land approval process takes 3-6 months, significantly hindering project progress.

**Lack of Evaluation Mechanism:** The dynamic evaluation mechanism for public service facilities has not been established, resulting in inadequate monitoring of facility utilization, service satisfaction, and socio-economic benefits. Some tourist centers

completed in 2024, due to insufficient demand assessment and remote locations, have an average daily reception capacity of less than 30 people, becoming idle facilities and causing resource waste.

Government: Perform basic guarantee and supervision functions:

➤ Planning guidance and policy support: The "Supporting Measures for Agricultural, Cultural and Tourism Public Services in Qingdao City" will be introduced. Starting from 2025, an annual special fund of 800 million yuan will be set up, with 70% subsidies for remote rural facility construction and 50% for the surrounding areas of the main urban area. Enterprises participating in public welfare facilities will enjoy tax reductions and 60% base price support for industrial land; Complete the city wide survey of agricultural, cultural, and tourism resources by the end of 2025, define a 5-kilometer core coverage area and a 10 kilometer extension coverage area, and clarify facility configuration standards.

➤ Basic service guarantee: From 2025 to 2027, invest 2.5 billion yuan to build rural roads, public toilets, etc., to achieve a proportion of at least 80% of third level and above roads in remote rural areas, a density of at least 1 tourist toilet per 5000 people, and coverage of all demonstration villages in medical points; Annual investment of 200 million yuan to purchase social organization services, with plans for 30 projects by 2025.

➤ Regulatory evaluation: Establish a "double random, one open" regulatory mechanism, conduct quarterly inspections of facility safety and service quality, rectify non conformities within a specified period of time, and cancel support if rectification is not sufficient; Introduce third-party annual evaluations to cover 12 demonstration areas for the first time in 2025, and use the results as a basis for policy adjustments and fund allocation.

Enterprises: leveraging the advantages of marketization and specialization:

➤ Participate in facility operation: Promote the "PPP model+franchising", encourage enterprises to operate tourist centers, homestays and other facilities, and grant the government a 30-year franchising right. Enterprises need to invest 5% of their revenue in maintenance. In 2025, pilot projects will be launched in five areas including Yangjiashanli and Zangmashan, introducing Qingdao Haifa Group and Huaying Cultural

Tourism to reduce operating costs by 20% and increase tourist satisfaction to 95%.

➤ Developing characteristic services: supporting enterprises to develop "agriculture+cultural tourism" and "culture+cultural tourism" products, drawing on the "Shanbao Yijia" IP in Yangjia Mountain to cultivate 15 rural cultural and creative brands, with sales exceeding 200 million yuan by 2027; Promote cooperation between enterprises, cooperatives, and farmers. Enterprises are responsible for standard setting and marketing, cooperatives organize farmers to provide services, and enterprises pay management fees of 12% of revenue to ensure the income of villagers.

➤ Digital empowerment upgrade: Encourage enterprises to invest in digital cultural and tourism projects, with a government subsidy of 30%, up to a maximum of 5 million yuan; By 2025, support Qingdao Agricultural, Cultural and Tourism Group to upgrade the "Qingdao Rural Cultural and Tourism Cloud", adding personalized recommendations, intelligent navigation and other functions, with a target platform of 300000 active users and an online booking rate of over 60%.

Society: Activate the endogenous motivation of village collectives and social organizations:

➤ Promote the "Party organization led cooperative" model in Yangjiashan Village, and by 2026, 70% of administrative villages will establish cultural and tourism service cooperatives to integrate idle residential buildings, land and other resources, establish a mechanism for village participation, and pay according to service hours and quality. By 2025, it is planned to train 2,000 village service experts and create employment opportunities for 5,000 people.

➤ Supplementary Services by Social Organizations: Cultivate rural cultural and tourism Non-Governmental Organizations (NGOs), support 30 NGOs from 2025 to 2027 to carry out activities such as cultural inheritance, voluntary services, and skills training, and provide a 100,000-yuan subsidy to NGOs that absorb more than 100 villagers for employment; establish the Qingdao Rural Culture and Tourism Volunteer Alliance, integrate volunteer resources from universities, enterprises, and communities, recruit 5,000 volunteers in 2025, and ensure that there are no less than 20 volunteers in each demonstration area during the peak season.

➤ Support from Rural Sages and Expert Think Tanks: Establish a "rural sage think tank", invite 200 cultural and tourism experts, entrepreneurs, and returned talents as consultants to provide planning and design, technical guidance for the development of rural services, such as conducting on-site guidance once a quarter; cooperate with universities such as Qingdao University and Ocean University of China to set up the "Research Center for Agriculture-Culture-Tourism Public Services" to carry out theoretical research and talent training, and cultivate 300 professional talents in 2026.

## CHAPTER 3

### OPTIMIZATION STRATEGIES FOR THE SUPPORTING PUBLIC SERVICES OF AGRICULTURE-CULTURE-TOURISM INTEGRATION IN QINGDAO

#### 3.1 Construction of a "1+3+N" Diversified and Collaborative Supply System

Establish the "Qingdao Agriculture-Culture-Tourism Public Service Coordination Platform" : with the municipal government's responsible leader as the group leader, integrating the functions of 12 departments, including Agriculture and Rural Affairs, Culture and Tourism, Transportation, Housing and Urban-Rural Development, and Finance, to achieve the whole-chain coordination of "planning, construction, operation, and evaluation". The platform structure and core functions are as follows (Table 3.1):

Table 3.1 - Structure and Functions of Qingdao Agriculture-Culture-Tourism Public Service Coordination Platform

| Platform Level         | Composing Departments/Institutions                                    | Core Functions                                                                                                                                                                                     | Operation Mechanism                                                        |
|------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Leading Group          | Municipal government's responsible leader+directors of 12 departments | Formulate overall policies, approve major projects, coordinate cross-departmental issues                                                                                                           | Hold coordination meetings monthly and conduct inspections quarterly       |
| Special Working Groups | Planning Group, Construction Group, Operation Group, Evaluation Group | Planning Group: Compile special plans; Construction Group: Promote facility construction; Operation Group: Coordinate operation and management; Evaluation Group: Conduct effectiveness evaluation | Each group has 1 leader (department's responsible leader) and 5-8 members  |
| Implementation Agency  | Qingdao Agriculture-Culture-Tourism Group (state-owned enterprise)    | Responsible for the daily operation of the platform, project implementation, and fund management                                                                                                   | Market-oriented operation, subject to the supervision of the Leading Group |
| Expert Think Tank      | University scholars, enterprise experts, industry associations        | Provide planning consultation, technical support, and evaluation suggestions                                                                                                                       | Carry out 2 special seminars annually and provide consultation on demand   |

Source: proposed by author

Planning Coordination: Compile the "2025-2030 Special Plan for the Supporting Public Services of Agriculture-Culture-Tourism in Qingdao", clarifying the spatial layout of "one core, three belts, and multiple points" (Figure 3.1). The density of public service facilities around the core main urban area shall be  $\geq 0.8$  per square kilometer, focusing on the construction of a smart service platform and high-end homestay clusters; for the three belts (coastal, mountainous, and red tourism areas), the facility density shall be  $\geq 0.6$  per square kilometer, with differentiated configuration of characteristic experience facilities; for multiple points (demonstration villages), the facility density shall be  $\geq 0.5$  per square kilometer, achieving "six havings": having tourist centers, parking lots, toilets, medical points, digital stations, and emergency facilities [14, p. 100].

Project Coordination: Establish an "Agriculture-Culture-Tourism Public Service Project Library", with a plan to include 120 projects from 2025 to 2027 (Table 3.2), covering fields such as transportation and logistics, cultural and tourism facilities, and digital services. Implement the whole-process management of "project application - expert review - public announcement - fund allocation - performance evaluation". Prioritize the promotion of 30 key projects in 2025, such as the construction of express delivery stations in remote villages and the upgrading of smart cultural and tourism platforms.

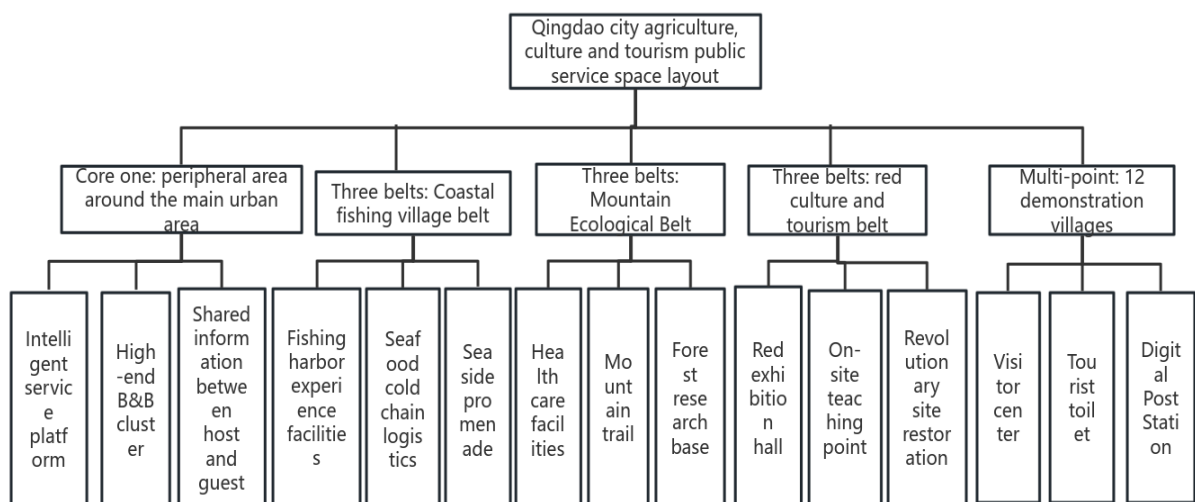


Figure 3.1 - "One Core, Three Belts, and Multiple Points" Spatial Layout of Qingdao's Agriculture-Culture-Tourism Public Services

Source: proposed by the author

Evaluation Coordination: Establish a quantitative assessment system, incorporating 10 indicators such as facility coverage rate, tourist satisfaction rate, and villager participation rate into the departmental performance assessment (Table 3.3). The assessment results are linked to financial appropriations: excellent districts and counties will receive an additional 10% of appropriations, while substandard ones will have a 5% reduction. Release the "White Paper on the Development of Agriculture-Culture-Tourism Public Services in Qingdao" annually to disclose the evaluation results.

Table 3.2 - Key Project Library of Qingdao's Agriculture-Culture-Tourism Public Services (Classified by Field), 2025-2027

| Project Field                   | Number of Projects | 2025 Target                                                          | 2026 Target                                                         | 2027 Target                                                        | Total Investment (100 million yuan) |
|---------------------------------|--------------------|----------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------|-------------------------------------|
| Transportation and Logistics    | 35                 | Reconstruct 400 kilometers of highways and build 50 stations         | Reconstruct 300 kilometers of highways and build 40 stations        | Reconstruct 300 kilometers of highways and build 30 stations       | 25                                  |
| Cultural and Tourism Facilities | 45                 | Build 15 tourist centers and 10 intangible cultural heritage museums | Build 12 tourist centers and 8 intangible cultural heritage museums | Build 8 tourist centers and 5 intangible cultural heritage museums | 30                                  |
| Digital Services                | 20                 | 5G coverage of 80% and 250,000 platform users                        | 5G coverage of 90% and 400,000 platform users                       | 5G coverage of 100% and 600,000 platform users                     | 15                                  |
| Public Health                   | 20                 | Build 15 medical points and 50 toilets                               | Build 10 medical points and 40 toilets                              | Build 5 medical points and 30 toilets                              | 10                                  |
| Total                           | 120                | -                                                                    | -                                                                   | -                                                                  | 80                                  |

Source: grouped by the author

Build a diversified collaborative mechanism of "government leadership, enterprise operation, and social participation", clarify the responsibilities and cooperation models of each subject, and solve the problems of "excessive government involvement, insufficient enterprise participation, and lack of social forces":

Based on the differentiated characteristics of Qingdao's agricultural, cultural, and tourism resources, four types of characteristic service modules are constructed to achieve

one set of services for each type of resource, solving the problem of poor adaptability to business formats:

Table 3.3 - Performance Assessment Index System for Qingdao's Agriculture-Culture-Tourism Public Services

| First-Level Indicators  | Second-Level Indicators    | Weight | Assessment Standards                                                            | Data Sources                                 |
|-------------------------|----------------------------|--------|---------------------------------------------------------------------------------|----------------------------------------------|
| Facility Construction   | Facility Coverage Rate     | 0.20   | Core area $\geq$ 95%, three belts $\geq$ 90%, multiple points $\geq$ 85%        | Field research, departmental reports         |
|                         | Facility Compliance Rate   | 0.15   | Ratio meeting provincial standards $\geq$ 90%                                   | Third-party testing                          |
| Service Quality         | Tourist Satisfaction Rate  | 0.20   | $\geq$ 92%                                                                      | Questionnaire surveys                        |
|                         | Villager Satisfaction Rate | 0.15   | $\geq$ 90%                                                                      | Questionnaire surveys                        |
| Operation Effectiveness | Facility Utilization Rate  | 0.15   | $\geq$ 75%                                                                      | Field observation, platform data             |
|                         | Social Participation Rate  | 0.15   | Enterprise investment ratio $\geq$ 40%, volunteer participation rate $\geq$ 30% | Departmental reports, volunteer registration |

Source: grouped by the author

1) Coastal Fisherman Module (covering areas such as Wanggezhuang in Laoshan and Langya Town in the West Coast New Area)

- Core Services: "Fishery Port Experience+Seafood Catering+Coastal Accommodation+Cold Chain Logistics". The supporting facilities and service standards are as follows (Table 3.4);

- Innovative Measures: Build a "Fishery Port Cultural Square" with seafood processing workshops and fishermen's cultural museums, and carry out activities such as "seaside foraging" and "seafood cooking teaching"; upgrade cold chain logistics facilities with intelligent fresh-keeping equipment to realize the delivery of seafood products to urban areas within 24 hours; develop "coastal night tour" products with night lighting and seafood stalls to extend the tourist stay time from 1 day to 2 days.

- Implementation Path: Focus on promoting the construction of the Wanggezhuang Cold Chain Center in Laoshan in 2025, investing 120 million yuan to equip intelligent sorting and fresh-keeping equipment; complete the renovation of 30 fisherman's

homestays and introduce brand operation in 2026; realize full coverage of night service facilities in 2027, aiming to extend the tourist stay time in the coastal area from 1 day to 2.5 days and increase the annual income by 40%.

Table 3.4 - Facility Configuration and Service Standards of the Coastal Fisherman Module

| Facility Type                      | Configuration Standards                                                                              | Service Standards                                                                                                       | 2025 Target                                                                        |
|------------------------------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Fishery Port Experience Facilities | Build 1 Fishery Port Cultural Square and 2 seafood processing workshops per area                     | Processing workshops provide "freshly caught and processed" services, with a daily reception of $\geq 300$ person-times | Processing workshop utilization rate of 85%, tourist satisfaction rate $\geq 92\%$ |
| Cold Chain Logistics Facilities    | Build 1 regional cold chain center per area, equipped with intelligent temperature control equipment | Fresh product loss rate $\leq 8\%$ , delivery time limit $\leq 24$ hours                                                | 100% coverage of cold chain center services, loss rate reduced to 7%               |
| Coastal Accommodation Facilities   | Cultivate 30 high-quality fisherman's homestays, each with a viewing balcony                         | Homestay occupancy rate $\geq 90\%$ in peak season and $\geq 40\%$ in off-season                                        | 100% homestay compliance rate, off-season occupancy rate increased to 50%          |
| Night Service Facilities           | Build 1 night seafood food street and 2 lighting landscapes per area                                 | Food street business hours until 22:00, 100% lighting rate of lighting landscapes                                       | Night consumption ratio increased from 15% to 25%                                  |

Source: grouped by the author

Mountain Ecological Module (covering areas such as Cangmashan and Dazeshan)

Focus on "mountain climbing health preservation + ecological research + picking experience", and formulate differentiated configuration plans to address the existing problems of insufficient health preservation facilities and weak research functions (Table 3.5):

Table 3.5 - Facility Configuration and Service Standards of the Mountain Ecological Module

| Facility Type                          | Configuration Standards                                                                                                  | Service Standards                                                                                                                              | 2024-2025 Data Comparison                                                                      |
|----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Health Preservation Service Facilities | Build 3 forest health preservation stations per area, equipped with blood pressure monitors and rehabilitation equipment | Stations provide free health consultation, with a daily service of $\geq 200$ person-times                                                     | 2024: 1 station, 12,000 service person-times; 2025: 3 stations, 36,000 service person-times    |
| Research Experience Facilities         | Build 2 ecological research bases per area, with experimental areas such as plant observation and soil testing           | Bases carry out $\geq 50$ research activities annually, covering $\geq 10,000$ students                                                        | 2024: 0 bases, 0 research income; 2025: 2 bases, 8 million yuan research income                |
| Picking Supporting Facilities          | Build 1 tourist rest area and 1 agricultural product exhibition and sales center per 500 mu of picking garden            | Rest areas are equipped with sunshades and drinking water equipment, and the product traceability rate of exhibition and sales centers is 100% | 2024: 60% coverage of exhibition and sales centers; 2025: 100% coverage                        |
| Low-Carbon Transportation Facilities   | Deploy 50 electric sightseeing vehicles and build 10 kilometers of hiking trails per area                                | Sightseeing vehicles run every 15 minutes, and the safety sign coverage rate of trails is 100%                                                 | 2024: 30 sightseeing vehicles; 2025: 50 sightseeing vehicles, trails extended to 15 kilometers |

Source: grouped by the author

Innovative Measures: Introduce an "ecological points" system, where tourists can exchange points for picking discounts or health preservation services by participating in garbage classification and afforestation; cooperate with Qingdao University School of Medicine to set up a "health monitoring point" at the Cangmashan Health Preservation Station, providing free health assessments for 12,000 tourists in 2025; develop "four-season research courses", including plant observation in spring, forest adventure in summer, picking practice in autumn, and ecological protection in winter, and have attracted 20 schools to sign cooperation agreements in 2025.

Red Cultural Tourism Module (covering areas such as Yangjiashan and Jiudian Town in Pingdu)

With "red education + rural experience" as the core, solve the problem of superficial existing red services and upgrade the facility and service system (Table 3.6):

Table 3.6 - Facility Configuration and Service Standards of the Red Cultural Tourism Module

| Facility Type                        | Configuration Standards                                                                                 | Service Standards                                                                                                 | 2025 Expected Results                                                                    |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| Red Exhibition Hall Facilities       | Expand the Yangjiashan Red Cultural Exhibition Hall to 2,000 square meters and add a VR experience area | ≥5VR experience projects, such as "Retracing the Revolutionary Road", with a daily reception of ≥500 person-times | 60% increase in exhibition hall reception, experience satisfaction rate≥95%              |
| On-Site Teaching Facilities          | Build 10 red teaching points per area, equipped with professional commentators                          | 100% certification rate of commentators, ≥200 training sessions annually                                          | Training coverage increased from 600,000 to 800,000 people                               |
| Red Homestay Facilities              | Renovate 20 red-themed homestays, integrating revolutionary elements                                    | Homestays provide "red story-telling" services, with an occupancy rate≥80%                                        | The proportion of homestay income in the total regional income increased from 15% to 25% |
| Red Cultural and Creative Facilities | Build 1 red cultural and creative workshop, developing products such as badges and books                | ≥30types of cultural and creative products, annual sales≥5 million yuan                                           | 80% increase in cultural and creative sales, driving 100 villagers to employment         |

Source: grouped by the author

Folk Culture Module (covering areas such as Ligezhuang in Jiaozhou and Yuanshang Town in Laixi)

Centering on intangible cultural heritage resources such as Jiaozhou Yangko, Laixi Puppetry, and Jimuo Liuqiang, solve the problems of insufficient intangible cultural heritage experience facilities and inheritance gaps, and build a full-chain service of "display - experience - inheritance" (Table 3.7).

Typical Practice: Ligezhuang in Jiaozhou built the Yangko Intangible Cultural Heritage Museum in 2025, setting up a "Yangko Teaching VR System" where tourists can learn Yangko movements through virtual reality.

Table 3.7 - Facility Configuration and Service Standards of the Folk Culture Module

| Facility Type                                                 | Configuration Standards                                                                                                                     | Service Standards                                                                                                  | 2026 Improvement Results              |
|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Intangible Cultural Heritage Display Facilities               | Build 1 intangible cultural heritage museum per district/county, with an exhibition area $\geq$ 1,000 square meters                         | Museums are open for free, receiving $\geq$ 100,000 person-times annually                                          | 2026: 120,000 person-times received   |
| Intangible Cultural Heritage Experience Facilities            | Build 1 workshop for each intangible cultural heritage project, equipped with inheritors for guidance                                       | Workshops carry out $\geq$ 5 experience activities daily, with an average experience time per person $\geq$ 1 hour | 2026: 50,000 experience person-times  |
| Folk Activity Facilities                                      | Build 1 folk cultural square per area, capable of accommodating $\geq$ 500 people                                                           | Hold $\geq$ 20 folk activities annually (such as Yangko Festival and Puppetry Show)                                | 2026: 25 activities                   |
| Intangible Cultural Heritage Cultural and Creative Facilities | Build an e-commerce center for intangible cultural heritage cultural and creative products, connecting with mainstream e-commerce platforms | The online sales ratio of cultural and creative products $\geq$ 40%, with an annual growth $\geq$ 50%              | 2026: 25 million yuan in online sales |

Source: grouped by the author

As of September 2025, it has received 32,000 experience tourists; cultivated "Jiaozhou Yangko Internet celebrity inheritors" who broadcast Yangko performances through Douyin and Kuaishou, with a total playback volume exceeding 50 million times in 2025, driving a 120% increase in the sales of Yangko cultural and creative products.

**3.2 Key Tools for Promoting the Upgrading of Service Facilities in Key Fields**

To address the problems of regional transportation imbalance and insufficient logistics timeliness, implement the "Three Major Projects" with a total investment of 4.5 billion yuan from 2025 to 2027. The specific plans are as follows (Table 3.8).

Table 3.8 - Implementation Plan for the Upgrading of Qingdao's Agriculture-Culture-Tourism Transportation and Logistics, 2025-2027

| Project Name                                           | Core Tasks                                                      | 2025 Target                                                                                           | 2026 Target                                                                                          | 2027 Target                                                                                          | Investment Budget (100 million yuan) |
|--------------------------------------------------------|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------|
| Rural Highway Quality Improvement Project              | Reconstruct highways in remote villages and upgrade road grades | Reconstruct 400 kilometers, grade III roads account for 80%                                           | Reconstruct 350 kilometers, grade III roads account for 85%                                          | Reconstruct 250 kilometers, grade III roads account for 90%                                          | 20                                   |
| Logistics Node Improvement Project                     | Build cold chain centers and joint distribution centers         | Build 3 cold chain centers and 10 joint distribution centers, express delivery time limit of 36 hours | Build 2 cold chain centers and 8 joint distribution centers, express delivery time limit of 28 hours | Build 2 cold chain centers and 7 joint distribution centers, express delivery time limit of 24 hours | 15                                   |
| Cultural and Tourism Special Line Optimization Project | Open inter-city and inter-area special buses                    | Open 40 special lines, with daily departures $\geq$ 80                                                | Open 45 special lines, with daily departures $\geq$ 90                                               | Open 50 special lines, with daily departures $\geq$ 100                                              | 10                                   |

Source: grouped by the author

### Rural Highway Quality Improvement Project

Road Reconstruction: Focus on reconstructing 1,000 kilometers of highways in remote villages such as Jiudian Town in Pingdu and Xitoudian Town in Laixi, widen the road surface to 6-8 meters, and add passing bays and hazard avoidance areas. 400 kilometers of reconstruction have been completed in 2025, and the travel time from the Dazeshan grape producing area to the urban area has been shortened from 2 hours to 1.2 hours.

Integration of Transportation and Tourism Upgrading: Set up viewing platforms (1 every 10 kilometers), cultural signs (1 group every 5 kilometers), and rest stations (1 every 20 kilometers) along the highways. 35 viewing platforms and 20 rest stations have been built in 2025, creating 5 most beautiful rural highways such as "Cangmashan Ecological Highway" and "Laoshan Coastal Highway". During the "May Day" holiday in 2025, self-driving tourists accounted for 75% of these routes [15, p. 124].

Intelligent Maintenance and Management: Establish an "intelligent maintenance platform" for rural highways, which can monitor road conditions in real time through sensors. It has been piloted on 500 kilometers of highways in 2025, the maintenance response time has been shortened from 48 hours to 24 hours, and the highway excellent rate has increased from 93% to 95%.

#### Logistics Node Improvement Project

- Cold Chain Logistics Network: Build 7 regional agriculture-culture-tourism product cold chain centers in Laoshan, West Coast, and Jiaozhou, equipped with intelligent temperature control and sorting equipment. 3 have been completed in 2025, the loss rate of fresh products such as cherries and grapes has dropped from 12% to 7%, and the sales volume of agricultural products served by cold chain logistics reached 850 million yuan in the first half of 2025 [16, p. 57].

- Express Delivery Joint Distribution System: Integrate resources of postal and express delivery enterprises to build 25 town-level joint distribution centers, realizing "unified warehousing, unified sorting, and unified distribution". 10 have been completed in 2025, the cost per rural express delivery order has dropped from 3.5 yuan to 2.8 yuan, and the rural express delivery business volume reached 480 million pieces in the first half of 2025, a year-on-year increase of 15%.

- In-depth Integration of "Passenger, Cargo, and Postal Services": Add 50 integrated passenger-cargo-postal routes, and promote the "public transport freight + drone delivery" model. Drone delivery has been piloted in the mountainous areas of Pingdu. 35 routes have been opened in 2025, the express delivery time limit in remote villages has been shortened from 48 hours to 36 hours, and the efficiency of agricultural products leaving villages and entering cities has increased by 25% [17, p. 81].

#### Cultural and Tourism Special Line Optimization Project

Inter-City Special Lines: Cooperate with Yantai, Weihai, and Rizhao to open the "Jiaodong Coastal Agriculture-Culture-Tourism Special Line". 15 lines have been opened in 2025, with 30 daily departures, connecting scenic spots such as Laoshan, Penglai Pavilion, and Liugong Island. Inter-city tourists increased by 40% in the first half of 2025.

**Inter-Area Special Lines:** Open direct special lines from the urban area to 12 demonstration areas. 25 lines have been opened in 2025, with 50 daily departures, equipped with "cultural and tourism commentators" to provide introductions to scenic spots along the way. In 2025, the special lines carried 1.2 million tourists, accounting for 20% of the total rural tourism tourists [18, p. 93].

**Customized Special Lines:** Launch customized special line services for research teams and enterprise team building. 2,800 teams have been served in 2025, and the income from customized special lines accounts for 35% of the total special line income, with a premium of 20% compared with ordinary special lines.

To address the problems of single facility functions and lack of night services, implement the transformation of "facility compounding and service all-time", focusing on promoting the upgrading of three types of facilities:

#### Full Coverage of "Six Havings" for Basic Service Facilities

Implement the "six havings" standard in 12 demonstration areas: having tourist centers, parking lots, tourist toilets, medical points, digital stations, and emergency facilities. The transformation of 8 areas has been completed in 2025, and the specific results are as follows (Table 3.9):

Table 3.9 - Compliance Status of "Six Havings" Facilities in Qingdao's Agriculture-Culture-Tourism Demonstration Areas, 2025

| Facility Type           | Number of Compliant Areas | Average Configuration Standards                                                     | Tourist Satisfaction Rate (%) | Year-on-Year Increase in 2024 (Percentage Points) |
|-------------------------|---------------------------|-------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------|
| Tourist Centers         | 8                         | Area≥120 square meters, equipped with mother-and-baby rooms and barrier-free access | 92                            | 8                                                 |
| Ecological Parking Lots | 8                         | ≥150 parking spaces, 20% of which are charging piles                                | 90                            | 10                                                |
| Tourist Toilets         | 8                         | Three-star standard, cleaned once every 2 hours                                     | 95                            | 5                                                 |
| Medical Service Points  | 8                         | Equipped with AED, first-aid drugs, and 1 medical staff                             | 88                            | 12                                                |
| Digital Stations        | 8                         | Free WiFi, charging sockets, and electronic screens                                 | 85                            | 15                                                |
| Emergency Facilities    | 8                         | Emergency shelters, fire-fighting equipment, and monitoring systems                 | 93                            | 7                                                 |

Innovative Design: Tourist centers adopt a "one center with multiple functions" design. The Yangjiashan Tourist Center integrates consultation, ticket sales, cultural and creative product sales, and agricultural product exhibition and sales functions. Its revenue in the first half of 2025 reached 6.8 million yuan, an increase of 300% compared with single-function tourist centers; parking lots introduce "photovoltaic canopies". The Cangmashan Parking Lot built a 1,000-square-meter photovoltaic canopy in 2025, with an annual power generation of 120,000 kilowatt-hours, meeting the parking lot's own electricity demand [19, p. 162].

## 2) Format Adaptability of Experience Service Facilities

Support special facilities for new formats such as health preservation, research, and night cultural tourism:

- Health Preservation Facilities: Build 5 "forest health preservation bases" in Cangmashan and Laoshan, equipped with rehabilitation equipment, negative oxygen ion monitors, and traditional Chinese medicine physiotherapy rooms. 3 have been completed in 2025, receiving 18,000 health preservation tourists and generating 25 million yuan in income, an increase of 80% compared with 2024.

- Research Facilities: Build 15 research bases in 12 demonstration areas, subdivided into three themes: "red education", "ecological science", and "intangible cultural heritage inheritance". 10 have been completed in 2025, developing 45 research courses and receiving 32,000 student groups, with research income of 12 million yuan.

- Night Facilities: Build 8 "night cultural and tourism consumption agglomeration areas" in Yangjiashan and Wanggezhuang in Laoshan, supporting lighting landscapes, characteristic catering, and cultural and creative markets. 5 have been completed in 2025, extending night business hours to 23:00. During the "National Day" holiday in 2025, the proportion of night consumption increased from 15% to 30%.

## 3) Innovation in Facility Operation and Management Mechanisms

- Market-Oriented Operation and Maintenance: Entrust enterprises to operate public welfare facilities (toilets, parking lots), and the government provides "basic subsidies+ performance rewards". It has been piloted in 5 areas in 2025, the facility

integrity rate has increased from 85% to 98%, and the operation and maintenance cost has decreased by 15% [20, p. 201]

- **Villager Adoption Mechanism:** Launch a "facility adoption" plan, allowing villagers to adopt public facilities such as rest pavilions and cultural squares. Adopters can obtain naming rights and discounts on the sales of cultural and tourism products. In 2025, 300 villagers adopted facilities, and the complaint rate regarding facility maintenance has dropped by 60%.

- **Intelligent Supervision:** Establish a "digital file for facility operation and maintenance", where maintenance records and repair requests can be viewed by scanning codes. It has covered 80% of public facilities in 2025, and the maintenance response time has been shortened from 48 hours to 2 hours.

3.To address the problems of backward digital infrastructure, data silos, and talent shortages, implement the "Three Ones" Project (one platform, one network, and one team) with an investment of 2 billion yuan from 2025 to 2027 [21, p. 258]:

1) Construct a Unified Platform of "Qingdao Rural Culture and Tourism Cloud"

Integrate existing scattered systems to build an "one-stop" smart service platform. The functional structure is as follows (Figure 3.2):

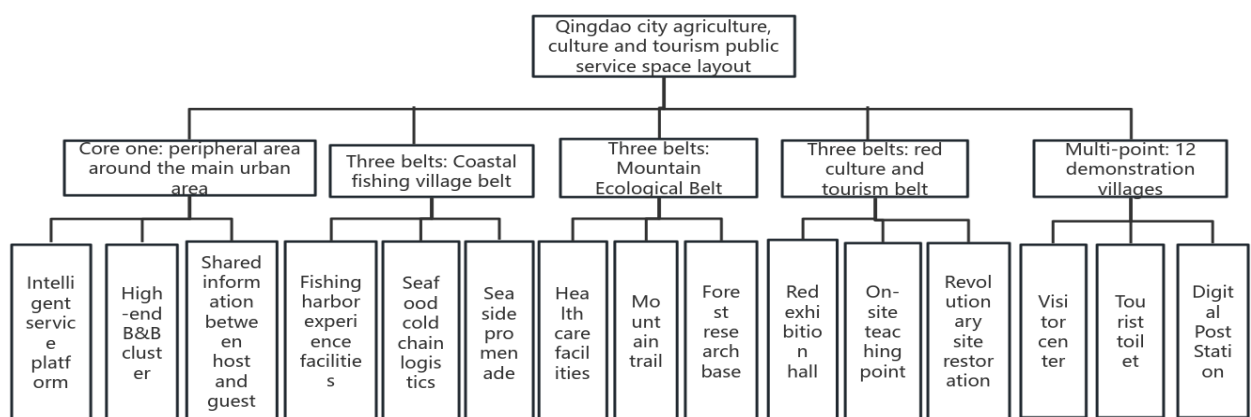


Figure 3.3 - Functional Structure of the "Qingdao Rural Culture and Tourism Cloud" Platform

Source: grouped by the author

Implementation Results: The platform was put into trial operation in June 2025. As of 2025, the number of registered users had reached 280,000, the online booking rate had increased from 35% to 48%, the accuracy rate of passenger flow early warnings had reached 90%, and three large-scale passenger flow congestion incidents had been successfully mitigated [22, p. 91].

## 2) Improve the "Whole-Region Covered" Digital Network

- 5G Signal Offensive: Cooperate with China Mobile, China Unicom, and China Telecom to achieve 85% 5G coverage in key agriculture-culture-tourism areas in 2025, 95% in 2026, and 100% coverage in 2027. 120 5G base stations have been built in remote villages in 2025, and the network bandwidth has been increased to more than 200M.

- Smart Station Construction: Build 100 "smart cultural and tourism stations" in 12 demonstration areas, equipped with free WiFi, charging sockets, and electronic screens, providing route query and emergency assistance services. 60 have been completed in 2025, with a station utilization rate of 75%.

- Internet of Things Application: Install intelligent sensors in tourist toilets, parking lots, and scenic spots to monitor passenger flow, hygiene conditions, and equipment status in real time. In 2025, 500 sensors were installed, resulting in a 40% increase in toilet cleaning efficiency and a 30% increase in parking space utilization rate.

## 3) Cultivate a Digital Team "Proficient in Technology and Cultural Tourism"

- Training Plan: Implement the "Rural Digital Culture and Tourism Talent Training Plan", cooperate with local schools to offer courses such as "live streaming with goods", "platform operation", and "intelligent equipment maintenance". Train 1,500 person-times and cultivate 300 digital experts in 2025.

- Talent Introduction: Introduce a "special policy for digital cultural and tourism talents", providing a maximum of 800,000 yuan in settlement subsidies for high-end talents such as big data analysts and platform architects. 50 talents have been introduced in 2025.

- University-Enterprise Cooperation: Cooperate with enterprises such as Huawei and Alibaba to establish "digital cultural and tourism training bases". 2 bases have been

completed in 2025, training 200 practical talents annually, with an enterprise directional employment rate of 60%.

3.3 Improve Guarantee Mechanisms and Implementation Paths

1. Establish sound policies and institutional safeguards

1) Improve the policy system

- Improve the Policy System: Special Laws and Regulations: Issue the "Regulations on the Administration of Supporting Public Services of Agriculture-Culture-Tourism in Qingdao", clarifying the legal responsibilities for facility construction, operation and management, and fund use. Complete the legislative research by the end of 2025 and promulgate and implement it in 2026.
- Policy Package Support: Formulate a "land+finance+ talent" policy package (Table 3.10) to address the pain points of enterprise participation:

Table 3.10 - Policy Package for the Supporting Public Services of Agriculture-Culture-Tourism in Qingdao, 2025

| Policy Type      | Specific Measures                                                                                                                         | Beneficiaries                         | Expected Results                                                                 |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------------------------------------|
| Land Policy      | Public welfare facilities use allocated land; the transfer floor price of profitable facilities is determined at 60% of industrial land   | Enterprises, village collectives      | Reduce land use costs by 30% and increase investment by 25%                      |
| Financial Policy | Develop "cultural and tourism facility loans" with an interest rate reduction of 15%; establish a 500 million yuan risk compensation fund | Cultural and tourism enterprises      | Increase the approval rate of enterprise loans from 48% to 70%                   |
| Talent Policy    | Maximum 800,000 yuan settlement subsidy for high-end talents; 5,000 yuan training subsidy per local talent                                | High-end talents, local practitioners | Increase talent introduction by 50% and training coverage to 80%                 |
| Tax Policy       | Enterprises constructing public welfare facilities enjoy "three-year exemption and three-year half reduction" tax incentives              | Participating enterprises             | Reduce enterprise tax burden by 20% and increase participation motivation by 35% |

Source: grouped by the author

Establish a Standard System

- **Formulate Local Standards:** Issue the "Standards for Agriculture-Culture-Tourism Public Services in Qingdao", covering 10 categories and 50 specific standards, such as tourist center area $\geq$ 120 square meters, tourist toilet male-to-female stall ratio 1:1.5, and digital service response time $\leq$ 10 seconds. Complete the standard compilation in 2025 and formally implement it in 2026.

- **Certification and Rewards:** Carry out the certification of "Agriculture-Culture-Tourism Public Service Demonstration Units". Certified units can use the "Qingdao Rural Culture and Tourism Service" logo and have priority in obtaining policy support. The first certification in 2025 covers 30 units, and will be expanded to 50 units in 2026 [23, p. 457].

- **Standard Training:** Conduct 2 standard training sessions annually to ensure 100% awareness rate of practitioners. 2,000 person-times have been trained in 2025, and the facility compliance rate has increased from 75% to 85%.

### 3) Diversified Fund Raising

Build a trinity fund system of "finance + society + finance" (Figure 3.3):

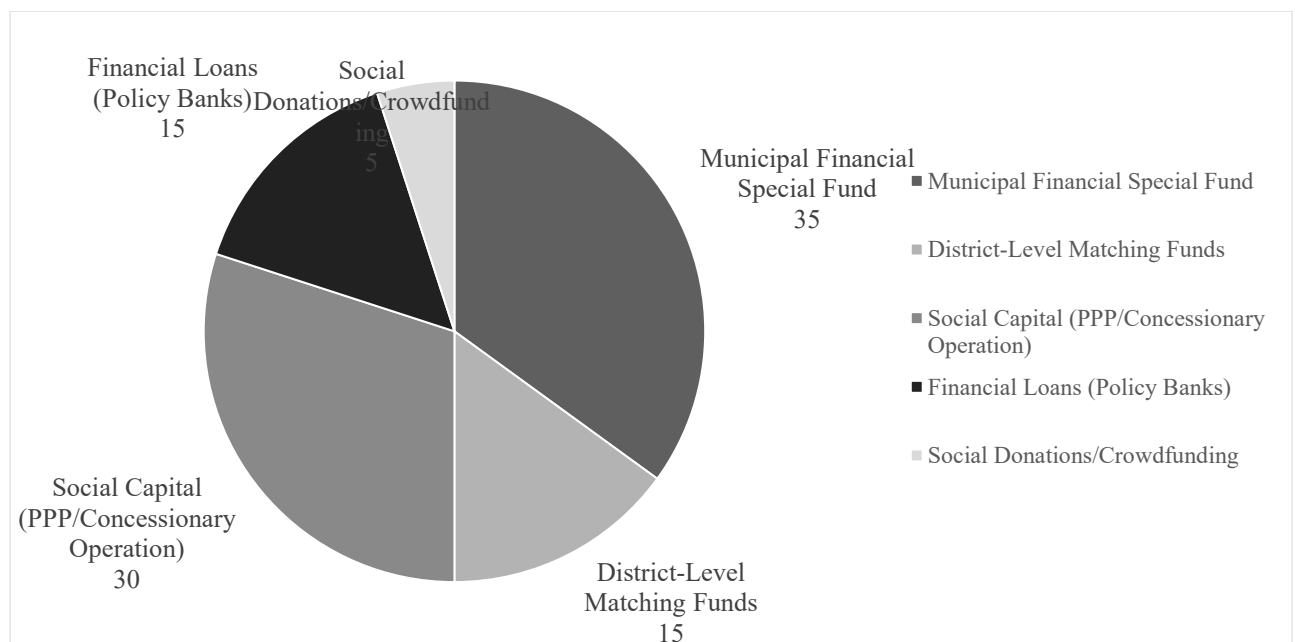


Figure 3.3 - Fundraising System for Qingdao's Agriculture-Culture-Tourism Public Services

Source: calculated by the author

**Financial Funds:** The municipal finance arranges an annual special fund of 800 million yuan, and the district-level matching funds are not less than 50% of the municipal level. 400 million yuan of district-level matching funds were allocated in 2025, focusing on supporting remote villages; set up "award-based subsidy" funds, rewarding 10 million yuan to districts and counties with a facility compliance rate exceeding 90%. 3 districts and counties have been rewarded in 2025.

- **Social Capital:** Attract social investment through PPP model, concessionary operation, crowdfunding, etc. A total of 1.5 billion yuan of social capital was introduced in 2025 for the construction of projects such as the Cangmashan Health Preservation Base and the Laoshan Cold Chain Center. Additionally, a "rural cultural and tourism crowdfunding platform" was launched, with a crowdfunding amount of 80 million yuan in 2025 for the renovation of small-scale facilities [24, p. 107].

- **Financial Funds:** Promote the Agricultural Development Bank of China and the China Development Bank to provide long-term, low-interest loans. encourage insurance institutions to develop "facility insurance" and "service liability insurance". 80% of facilities have been insured in 2025, and risk losses have been reduced by 40%.

#### 4) Optimization of Fund Supervision

- **Whole-Process Management:** Establish a whole-process management mechanism for special funds of "project application - expert review - public announcement - fund allocation - performance evaluation". 80 projects have been reviewed in 2025, and 15 unqualified projects have been rejected.

- **Third-Party Audit:** Introduce accounting firms to conduct audits on the use of funds and release audit reports annually. The first audit in 2025 covers 30 projects, and 5 problems have been identified and rectified.

- **Performance Evaluation:** Establish a performance evaluation system for fund use, assessing from the dimensions of input-output (such as the number of tourist growth driven by per 10,000 yuan investment), service quality, and public benefit. The evaluation results are divided into excellent, qualified, and unqualified. The remaining funds of unqualified ones will be recovered. 60% of the projects evaluated in 2025 are excellent.

#### 5) Implement the "Hundred-Thousand-Ten Thousand" Talent Project

- **Introduce 100 High-End Talents:** Focus on fields such as cultural and tourism planning, digital technology, and operation management. 50 have been introduced in 2025, 80 will be completed in 2026, and the target of 100 will be achieved in 2027. Establish a "high-end talent think tank" to provide consulting services for projects.

- **Cultivate 1,000 Professional Talents:** Carry out special training for "homestay housekeepers", "research tutors", "digital operators", etc. 300 have been cultivated in 2025, 600 in 2026, and 1,000 in 2027. Issue professional qualification certificates, with a certified employment rate of 90%.

- **Train 10,000 Basic Service Personnel:** Conduct basic skills training such as catering, tour guiding, and cleaning for villagers. 3,000 have been trained in 2025, 5,000 in 2026, and 10,000 in 2027, driving more than 50,000 jobs.

#### 6) Improve the Talent Incentive Mechanism

- **Salary Incentive:** High-end talents implement "annual salary system+ project dividend", with an annual salary of no less than 500,000 yuan; professional talents implement "basic salary+performance reward", with performance reward accounting for no less than 40%; basic service personnel implement "piece-rate wage + service star reward", with higher rewards for higher stars.

- **Honor Incentive:** Set up the "Qingdao Rural Culture and Tourism Service Star" selection, selecting 100 outstanding practitioners annually, giving each a 10,000-yuan reward and prioritizing recommendation for provincial awards. 100 people have been commended in the first selection in 2025.

- **Development Incentive:** Establish a career development channel. Basic service personnel can be promoted to professional and technical positions or management positions. Professional talents can be included in Qingdao's young talent plan, enjoying preferential treatment such as housing and children's education. 50 professional talents have been included in the plan in 2025.

2.Implement a Phased Promotion Strategy:Divide the optimization strategy into three phases for implementation to ensure orderly landing (Table 3.11):

Table 3.11 - Phased Implementation Plan for the Optimization of Qingdao's Agriculture-Culture-Tourism Public Service Supporting Facilities

| Phase                                                | Time Frame                 | Core Tasks                                                                                                                                                  | Key Indicators                                                                                                              | Responsible Subjects                                                                                                            |
|------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Pilot Demonstration Phase                            | October 2025-December 2026 | Pilot in 3 areas (Yangjiashan, Cangmashan, Wanggezhuang in Laoshan); complete the first phase of the "Cultural and Tourism Cloud"; issue the policy package | Tourist satisfaction rate in pilot areas $\geq$ 95%; platform users $\geq$ 400,000; policy coverage rate $\geq$ 80%         | Qingdao Municipal Bureau of Culture and Tourism, Qingdao Municipal Bureau of Finance, governments of each pilot district/county |
| Comprehensive Promotion Phase                        | January 2027-June 2028     | Promote to 12 demonstration areas; complete the upgrading of transportation and logistics and digital facilities; cultivate 500 professional talents        | Facility compliance rate $\geq$ 90%; express delivery time limit $\leq$ 24 hours; talent training $\geq$ 8,000 person-times | Qingdao Coordination Platform, governments of each district/county, enterprises                                                 |
| Quality Improvement and Efficiency Enhancement Phase | July 2028-December 2029    | Optimize service quality; deepen the diversified supply mechanism; create a national model                                                                  | Tourist satisfaction rate $\geq$ 98%; social capital ratio $\geq$ 50%; national demonstration projects $\geq$ 5             | Qingdao Municipal Government, Qingdao Coordination Platform, think tanks                                                        |

Source: grouped by the author

Phase Guarantee: Conduct a review at the end of each phase to assess the completion of tasks and adjust and optimize strategies; establish a "monthly scheduling, quarterly inspection, and annual assessment" mechanism. 10 scheduling sessions and 2 inspections have been carried out in 2025 to ensure the orderly progress of the pilot work.

## CONCLUSIONS

This study, conducted against the backdrop of the Rural Revitalization Strategy, focuses on the public service infrastructure challenges in integrating agriculture, culture, and tourism in Qingdao, Shandong Province. Through theoretical frameworks, empirical analysis, and strategic recommendations, it delivers systematic research outcomes. Utilizing data from 2024-2025 and incorporating theories on public service provision and industrial chain integration, the study reveals Qingdao's current development status, core issues, and optimization pathways for agricultural, cultural, and tourism public services. The key findings are as follows:

First, Qingdao's integrated agricultural, cultural, and tourism public service infrastructure has established a development foundation characterized by "policy guidance, demonstration-driven initiatives, and diversified participation." Under the impetus of Shandong Province's "Ten Thousand Villages Project" experience and Qingdao's efforts to create a "National Cultural-Tourism Integration Demonstration Zone," 12 municipal-level demonstration zones were completed between 2024 and 2025. The rural road network now spans 12,860 kilometers, with 712 passenger, freight, and postal service stations. Notable areas like Yangjiashanli have achieved annual tourism revenues exceeding 120 million yuan. Innovative practices such as the "Three Integrations" transportation model and "shared facilities for residents and visitors" have laid the groundwork for service upgrades. However, data reveals significant regional disparities: tourist satisfaction reaches 92% in areas surrounding the main urban district, compared to 80% in remote regions, with a 25 percentage point gap in facility coverage rates.

Second, Qingdao's agricultural, cultural, and tourism public service system faces four core challenges that require resolution. In terms of supply structure, there is an oversupply of basic infrastructure coupled with insufficient quality services, with 42% of tourists reporting a shortage of high-end homestays. Regarding facility efficiency, regional coverage remains uneven and poorly aligned with industry needs—5G coverage in remote villages stands at only 55%, while 40% of wellness and nighttime cultural

tourism facilities are underdeveloped. Digital empowerment is hindered by data silos and talent shortages, with data sharing rates among departments remaining below 30% and digital professionals accounting for only 12% of the workforce. Operational mechanisms demonstrate excessive government reliance and weak stakeholder engagement, as enterprises contribute merely 15% to public welfare facility investments, and 40% of villages lack established mechanisms for villagers' benefit-sharing. The root causes lie in fragmented policies, imbalanced funding structures, inadequate talent support, and underdeveloped mechanisms for expressing demand.

Third, establishing the "1+3+N" optimization framework serves as the core solution. Through a unified coordination platform, 8 billion yuan will be invested in 120 projects from 2025 to 2027, enhancing interdepartmental collaboration. The "triple-pillar synergy" clarifies responsibilities among government, enterprises, and social entities, with corporate investment increasing from 30% to 50%. The "N specialized modules" precisely align coastal, mountainous, revolutionary heritage, and folk cultural resources, aiming to achieve 98% tourist satisfaction and create 250,000 jobs by 2029. Key upgrades include achieving 24-hour delivery efficiency in transportation logistics by 2027; completing full coverage of the "Culture-Tourism Cloud" in digital services by 2026; and implementing safeguard mechanisms that overcome implementation bottlenecks through policy packages and talent development initiatives.

The theoretical contribution of this study lies in establishing an analytical framework encompassing "rural revitalization, integration of agriculture, culture, and tourism, and public service infrastructure," thereby enhancing the application of public service supply theory in rural contexts. Its practical value is demonstrated by strategies tailored to Qingdao's specific conditions, such as the "facility adoption" and "digital talent development" initiatives, which have proven effective in pilot zones and can serve as a reference for similar regions nationwide.

The study has certain limitations: the quantitative analysis primarily covers 12 demonstration zones, excluding all districts and counties; the effectiveness of strategy implementation requires long-term tracking and evaluation. Future research could expand

the sample scope, delve deeper into the application of technologies like AI and metaverse in public services, and further enhance service precision and intelligence.

As the rural revitalization strategy advances, the integration of agriculture, culture, and tourism has become a core pathway for high-quality rural development. The quality of public service infrastructure, serving as both a "foundational project" and a "people-oriented initiative", directly determines the sustainability of this integrated development. Guided by the optimization strategies proposed in this study, Qingdao should strengthen policy coordination, innovate funding mechanisms, and cultivate professional talent to elevate public services from mere "coverage" to "quality". This will ultimately achieve the rural revitalization goals of "thriving industries, livable ecology, and prosperous livelihoods".

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