

Research on Digital Technology Empowering Rural Revitalization from the Perspective of Green Common Prosperity — A Case Study of Fuchunjiang Town

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Abstract: At present, the integration of digital technology and rural revitalization is reshaping the overall pattern of rural development and has become an important support for promoting green common prosperity. Taking Fuchunjiang Town, Tonglu County, Zhejiang Province as the research object, this study analyzes the specific practices and internal logic of the town's digital transformation around three directions — smart agriculture, intelligent manufacturing, and digital cultural tourism — through on-site visits and data collection. The research finds that Fuchunjiang Town drives overall transformation through key projects, makes up for the shortage of digital skills by enhancing teamwork and division of labor, and gradually builds an integrated development pattern of “agriculture as the foundation, industry as the efficiency driver, and cultural tourism as the vitality enhancer.” At the same time, the local area still faces dilemmas such as a low digitalization level of tourism services and insufficient refinement of environmental management in the process of promoting digitalization. In response to the above problems, this paper puts forward targeted optimization paths based on the research results. It is hoped that through this research, new ideas can be provided for digital technology to empower rural revitalization and promote the realization of green common prosperity.

Keywords: Digital technology; Rural revitalization; Integration of three industries; Fuchunjiang Town; Green common prosperity

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1. Introduction

As the real scene of the *Dwelling in the Fuchun Mountains* painting, Fuchunjiang Town, Tonglu County, Zhejiang Province, has frequently appeared in various media reports in recent years due to its explorations in empowering rural revitalization through digitalization. The town has introduced smart agriculture, future factories, and film and television VR into the countryside, attempting to depict a modern version of the

Fuchun Mountain Residence scene. This practice has also attracted the attention of the research team.

Composed of college students, some members of the team are from Tonglu County, which provides convenient conditions for on-site research, and they have personal experience of the development and changes of their hometown. After an in-depth understanding of Fuchunjiang Town's digital development practices, the authors inevitably have thoughts: What are the actual effects of these pioneering explorations? If digital technology is truly implemented in the countryside, what profound changes will it bring to local development? What practical difficulties may be encountered in the process of practice? With these questions, the team decided to carry out research with Fuchunjiang Town as a typical case. It is expected that through on-site research and case analysis, the real picture of digital technology empowering rural revitalization can be objectively presented; at the same time, from the perspective of contemporary college students, the authors can contribute their own observations and thoughts to the cause of rural revitalization and the realization of the goal of green common prosperity.

2. Digital empowerment practices in Fuchunjiang Town

2.1. Agricultural digitalization

The agricultural digital transformation carried out in Fuchunjiang Town mainly takes the Yuzhaofan High-efficiency Ecological Agriculture Demonstration Park as the core carrier, focusing on green ecology while taking into account the needs of increasing farmers' income. In 2025, the park adopted a fully automatic rice seedling raising assembly line, which doubled the seedling raising efficiency compared with the traditional manual method, and the seedling emergence rate can be maintained at a relatively high level. On this basis, the park has simultaneously planned the "digital farmland" module, deploying front-end sensing equipment such as pest identification and temperature and humidity sensors, so as to realize real-time monitoring and precise regulation of the production environment. Thanks to these digital measures, the amount of chemical fertilizers can be significantly reduced, and the annual new grain output value can reach nearly 400,000 yuan ^[1].

From a theoretical perspective, this practice is exactly in line with the basic logic of "digital empowerment for high-quality agricultural development" proposed by scholars such as Xia Xianli. Relying on the embedding of data elements, agricultural production has shifted from experience-driven to data-driven in the past, and the efficiency of resource allocation has been significantly improved ^[2]. It is worth noting that the construction of the park adopts a progressive strategy of "from easy to difficult, step-by-step implementation": first, solve the efficiency bottleneck in the seedling raising link, and then gradually extend to the full-process digitalization of agricultural production. This strategy has effectively reduced the acceptance threshold of farmers for new technologies and avoided the phenomenon of "valuing equipment over application."

2.2. Industrial digitalization

In the industrial field, the digital transformation of Fuchunjiang Town shows obvious characteristics of "leading enterprise traction", which not only promotes the quality and efficiency improvement of the enterprises themselves but also drives the coordinated development of regional industries, providing more employment opportunities for local villagers. As one of the first batches of "future factories", the Hikvision Tonglu Base has built a large-scale customized intelligent manufacturing model by deploying a large number of mobile robots and industrial cameras, with an order customization configuration ratio of 75% ^[3]. This practice not only enhances the core competitiveness of the enterprise but also provides a digital transformation template for surrounding small and medium-sized manufacturing enterprises to observe and learn from.

At the same time, relying on the resource advantages of leading enterprises such as Zhefu Hydropower and Toshiba Hydropower, the local clean energy equipment manufacturing industry in Fuchunjiang Town has established an industrial alliance to jointly promote the research and development of key core technologies. The relevant core technologies of Zhefu Hydropower have been included in the provincial-level research and development projects, providing technical support for industrial digital transformation. The construction of the high-end equipment manufacturing industrial park is also advancing steadily, which further improves the industrial supporting facilities, builds a spatial carrier for manufacturing digitalization, and drives the green and low-carbon development of local industry^[4].

2.3. Cultural tourism digitalization

The exploration of cultural tourism digitalization in Fuchunjiang Town is concentrated in the construction of the Film and Television Technology Industry-Education Demonstration Zone. In 2025, the project was officially opened as a key project, and the first batch of 1,000 teachers and students had successfully settled in. The demonstration zone takes “film and television + technology + tourism” as the development direction, introduces VR real-scene cultural tourism projects, and has co-built industrial colleges with more than 30 universities, forming an industry-education integration development pattern. At the same time, the implementation of the AI talent training system has also improved the efficiency of lens restoration^[5].

Through research, it can be found that behind this layout lies the development logic of “driving scenes through dramas and promoting tourism through scenes.” That is, using the content appeal of film and television IP to drive offline cultural tourism consumption, and then feeding back the communication value of IP through tourism experience. From January to June 2025, the slow-living area of Fuchunjiang Town received 895,000 tourists and achieved a tourism operating income of 145 million yuan. At the same time, Maoping Village launched simultaneous agricultural assistance live broadcast services, which further transformed cultural tourism traffic into agricultural product sales channels^[6], realizing the in-depth integration of agriculture, culture, and tourism, and enabling ecological resources to be converted into economic benefits through digital means.

3. Integrated pattern and promotable experience of digital technology empowering rural revitalization in Fuchunjiang Town

3.1. Integration pattern of three industries

From the perspective of industrial correlation, under the vision of green common prosperity, the digital practices carried out in Fuchunjiang Town show obvious characteristics of the integration of three industries. The three industries support each other and work together to build a benign interactive development system, which is the core logic of the local area to empower green common prosperity through digital technology.

Among these industries, the digital construction of the agricultural demonstration park closely adheres to the requirements of green ecological development. It not only provides a basic supply of green products for the development of agricultural product e-commerce and rural tourism, but also earnestly practices the development concept of ecological priority. The digital transformation in the industrial field focuses on two directions: clean energy equipment manufacturing and intelligent manufacturing, taking into account industrial efficiency improvement and low-carbon development, creating stable employment positions for the local area, and broadening the channels for villagers’ income increase. The upgrading of the digital cultural tourism industry has dug deep into the ecological and cultural resources of Fuchunjiang, activated

green resources through digital means, and effectively driven the agglomeration of people. For example, the agricultural assistance live broadcast service launched by Maoping Village intuitively reflects this green common prosperity development logic of industrial coordination and dual efforts of ecology and poverty alleviation. In recent years, the total output value of local industrial enterprises above designated size has maintained a growth trend, and the income gap between urban and rural residents has continued to narrow, which, to a certain extent, confirms that the integrated pattern has achieved initial results^[7].

Studies by scholars such as Zeng Yiwu have shown that digital technology can improve the resource allocation efficiency of rural industries^[8]. In the practice of Fuchunjiang Town, this logic has been further expanded: digital technology not only acts on a single industry but also connects the two major goals of green development and common prosperity, allowing the dividends of industrial development to benefit more of the grass-roots masses.

3.2. Promotable experience

Based on the development goal of green common prosperity, by sorting out the practice path of Fuchunjiang Town, the following valuable experiences can be extracted:

First, drive overall transformation through key projects: Instead of adopting a “full-scale deployment” approach, Fuchunjiang Town has selected demonstration parks, leading enterprises, and film and television demonstration zones as breakthrough points in the agricultural, industrial, and cultural tourism fields, respectively, relying on breakthroughs in key nodes to drive system-level transformation. This is in line with the “rural reconstruction” logic proposed by Long Hualou and Tu Shuangshuang — driving system-level transformation through breakthroughs in key nodes to achieve the development goal of green common prosperity^[9].

Second, strengthen cooperation and division of labor among teams: In response to the digital skill shortage faced by rural business entities, people can learn from the “homestay mutual assistance alliance” model. It does not require everyone to be an expert, but instead, technical personnel are responsible for online operations uniformly, allowing more people to share industrial benefits.

Third, improve the honor incentive mechanism to achieve a win-win situation: The practice of Lucici Village shows that environmental governance needs to stimulate the endogenous motivation of villagers. By linking environmental governance with villagers’ sense of honor through training, star rating, and other methods, promote them to shift from “passive rectification” to “active maintenance.”

Fourth, promote the production of cultural tourism content through film and television IP: The exploration of the Film and Television Technology Industry-Education Demonstration Zone provides a path for villages with IP resources. By transforming film and television IP into immersive experiences, ecological resources can be activated to achieve green prosperity.

Fifth, adhere to the promotion idea of “gradual progress, from easy to difficult”: Digitalization is a long-term process to achieve green common prosperity. People should first solve the bottlenecks in production efficiency, and then gradually match the precise regulation module. This idea of going from easy to difficult can effectively reduce the acceptance threshold of farmers^[10-11].

4. Practical dilemmas and optimization paths

4.1. Main dilemmas

Combined with the situation of this on-site research, it can be found that Fuchunjiang Town still faces some

dilemmas in the process of promoting green common prosperity.

First, the digital service capacity is not sufficient: Some homestays lose business due to the lack of foreign language talents or unskilled operation of check-in systems, and the digital skills of middle-aged and elderly operators are generally weak.

Second, there are shortcomings in environmental management: Some villages still have problems, such as random stacking of construction waste, and the details of environmental hygiene need to be improved.

Third, the landing of agricultural digitalization is relatively slow: Some digital farmland modules are still under construction, and the contribution of digital technology to efficiency improvement has not been fully reflected.

Fourth, supporting facilities need to be further improved: Some tourist piers have insufficient land transportation supporting facilities, requiring the integration of regional resources and the establishment of a transfer system.

4.2. Optimization paths

In response to the dilemmas found in the research, the following optimization paths can be proposed.

First, promote the “homestay mutual assistance alliance” model: Technical talents will be responsible for overall online operations, and digital skill training will be carried out to improve reception capacity.

Second, establish a digital environmental supervision platform: Timely discover problems through tourist feedback and intelligent monitoring, and link environmental governance with honor incentives.

Third, improve the intelligent tourist service system: Equip key scenic spots with services such as smart parking and intelligent tour guides to achieve seamless connection of tourist services. Strengthen regional coordination, establish a land-water transfer system, and achieve seamless connection of tourist services^[10].

Fourth, promote the sharing and coordination of three-industry data: Incorporate agricultural demonstration parks and smart factories into tourist routes, deeply explore the IP value of *Dwelling in the Fuchun Mountains*, develop immersive digital cultural tourism products, release the synergy effect of the integration of three industries, and help green common prosperity^[11].

5. Conclusion

Through this on-site visit and case analysis, people can deeply recognize that digital technology is undoubtedly an important starting point for transforming “lucid waters and lush mountains” into “gold and silver mountains.” The practice of Fuchunjiang Town has proved that rural digitalization is not a simple technical superposition, but a systematic project that needs to be deeply integrated with rural reality, villagers’ capabilities, and governance models. Although limited by research time and resources, the depth of this study still has room for improvement. It is hoped that these explorations can provide useful references for more villages to embark on the road of green common prosperity relying on digital technology.

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