

From Decline to Regeneration: A Study on the Revitalization Pathway of Shodoshima, a Remote Island in Japan

Pin Wang¹, Dan Zhang^{1*}

¹Dalian Minzu University, Dalian, 116600, China.

*Corresponding author. E-mail: 58416336@qq.com;

Contributing author: 1623752647@qq.com.

Abstract

Against the backdrop of urbanization and industrial transformation, traditional offshore islands have generally fallen into a cycle of decline characterized by population loss, industrial recession, underutilized space, and waning vitality. To address this challenge, this study takes Shodoshima Island in Kagawa Prefecture, Japan, as a case study. Integrating case study and field research methods, it systematically analyzes the island's revitalization efforts catalyzed by the Setouchi International Art Festival, aiming to reveal the pathways and mechanisms through which remote islands transition from decline to regeneration. Examining Shodoshima's practices across four dimensions—spatial revitalization, industrial transformation, cultural regeneration, and multi-stakeholder governance—the study finds that local agency, public participation, and the value of local resources—core elements emphasized by traditional endogenous development theory—form the cornerstone of revitalization. However, Shodoshima's success lies more critically in establishing a virtuous interaction between internal and external actors, as well as between local and supra-local levels. This aligns with the new endogenous development theory, which offers a more inclusive, realistic, and operationally feasible policy framework than traditional models, better equipped to explain and guide rural revitalization. The multidimensional and systematic revitalization experience of Shodoshima provides a practical model for other remote island regions facing similar challenges, including those in China.

Keywords: Complex Offshore Islands; Shodoshima; New Endogenous Development Theory; Setouchi International Art Festival; Multi-Stakeholder Collaboration

1 Introduction

Against the backdrop of ongoing urbanization [1], most remote islands face common development challenges, including population outflow, decline of traditional industries, underutilized spatial resources, and weakening community vitality.

As a highly representative offshore island in the Seto Inland Sea, Shodoshima [3] in Kagawa Prefecture [2] entered a phase of systematic tourism development following the opening of the "Twenty-Four Eyes" Film Village in 1987. By leveraging the natural landscapes of Kanka-kei, olive groves, and film-related cultural resources, the island initially established a tourism model centered on nature-based sightseeing and cultural experiences. However, amid ongoing social transformation, Shodoshima gradually experienced population decline, spatial underutilization, and weakening industrial momentum.

Since the launch of the Setouchi International Art Festival [4] in 2010, Shodoshima has taken spatial regeneration as a point of departure, integrating the reactivation of local industries with the preservation of indigenous culture. This has led to a gradual yet comprehensive social, economic, and cultural recovery, positioning Shodoshima as a representative case of remote island revitalization.

Existing research on remote island revitalization tends to focus on single dimensions such as architectural renovation and landscape planning, with limited attention to the practical logic of systematic revitalization. To address this gap, this study takes Shodoshima as a case study, examining the practical challenges and key measures in its revitalization process. It further synthesizes the underlying logic and practical experience of island revitalization, offering insights and strategies for the revitalization and utilization of similar remote islands in China.

2 Research Subjects and Methods

A. Shodoshima, Kagawa Prefecture, Japan

The research subject of this study is Shodoshima, Kagawa Prefecture, Japan. Located in the eastern part of the Seto Inland Sea, Shodoshima is the second-largest island in the Seto Inland Sea after Awaji Island. It comprises two towns: Tonosho and Shodoshima (see Figure 1). According to official population estimates from the Kagawa Prefecture Statistical Bureau as of June 1, 2025, the island has approximately 24,000 permanent residents—12,531 in Shodoshima Town and 11,499 in Tonosho Town. Shodoshima was also the largest core host island of the Setouchi International Art Festival in 2010.

The island features rich natural landscapes and cultural heritage, with deep-rooted traditional industries [5]. It is Japan's first region to achieve commercial olive cultivation and is home to soy sauce brewing techniques with over 400 years of history, as well as the specialty industry of hand-stretched somen noodles. Amid urbanization and industrial transformation, a large number of old school buildings, abandoned workshops, vacant factories, and residential houses have fallen into disuse, leading to prominent spatial decline—a development dilemma commonly faced by remote islands.

Due to severe population loss, Shodoshima was specially added as a target of the Remote Island Revitalization Act [6] in 2013, a policy measure that

underscores the gravity of its decline. As a core host island of the Setouchi International Art Festival, Shodoshima has fully undergone the development trajectory of "industrial decline-spatial vacancy-artistic intervention-comprehensive revitalization." Taking the 2010 Setouchi International Art Festival as a critical turning point, the island has steadily advanced spatial renewal [7], industrial transformation, and recovery of community vitality [8], fully demonstrating the practical logic of transitioning from decline to revitalization. Given its outstanding representativeness and research value, this study takes Shodoshima as a core case for the study of remote island revitalization.



Fig. 1 Location Map of Kagawa Prefecture and Shodoshima, Japan

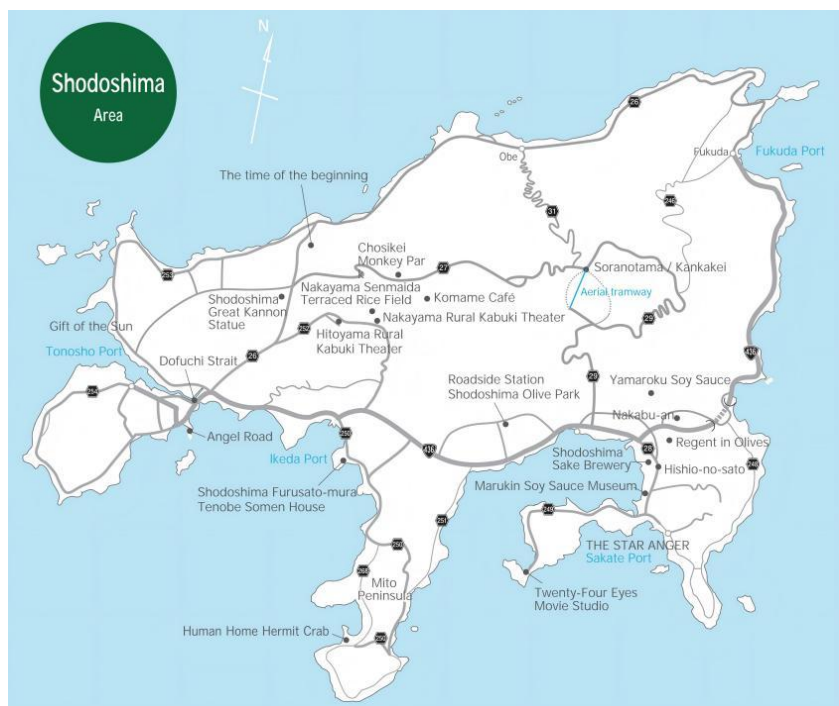


Fig. 2 Distribution Map of Tourism and Industrial Resources in Shodoshima

B. Development Challenges of Shodoshima Before Revitalization

Prior to the Setouchi International Art Festival, Shodoshima Town had long been in a state of decline characterized by continuous population shrinkage and insufficient development momentum across the island. It stands as a typical example of the development challenges commonly faced by islands in the Seto Inland Sea, manifested primarily in two structural problems.

First, a severely imbalanced population structure has weakened social carrying capacity. Shodoshima's population peaked at approximately 64,000 in 1946, followed by continuous outflows amid Japan's accelerating urbanization. By the eve of the art festival in 2010, the population had significantly declined, with the aging rate far exceeding the national average of Japan. This fundamental demographic imbalance directly transmitted its effects across various domains—industry, space, and community—triggering a systemic decline across the island.

Second, multidimensional development stagnation has formed a vicious transmission cycle. Against the backdrop of sustained population shrinkage, Shodoshima experienced systemic stagnation across multiple dimensions, including industry, space, tourism, and community. These dimensions did not encounter problems in isolation; rather, they mutually reinforced each other during the decline process, forming a stepwise vicious cycle. The interrelationships among these dimensions are summarized in Table 1. A case in point is the traditional soy sauce brewing industry. During the Meiji period, Shodoshima was home to approximately 400 soy sauce breweries; by 2024, only 15 remained. Between 2009 and 2023, the number of workers in this industry decreased from 232 to 187, a reduction of 20%.

Table 1. Summary of Island-Wide Development Challenges of Shodoshima Before Revitalization

Development Dimensions	Core Challenges	Specific Manifestations	Impact on other Dimensions
Traditional industries	Lack of endogenous growth momentum	Industries are dominated by primary processing, resulting in low added value and difficulties in preserving traditional craftsmanship	Industrial decline has led to the vacancy of workshops and factory premises, thereby exacerbating the wastage of spatial resources
Spatial Resources	Existing Spaces Left Idle and Decaying	A large number of old buildings stand vacant and derelict, resulting in a severe waste of local spatial resources	The dilapidated state of these spaces creates a poor impression on visitors, thereby undermining the area's appeal to tourists
Tourism development	Superficial Development	Predominantly short-distance tourism, with limited consumer spending and weak capacity to drive the cultural and tourism economy	Weak tourism-driven growth results in low household incomes, which in turn drives further out-migration of young people
Community Governance	Failure of Multi-Stakeholder Coordination	Low levels of community participation, with a lack of coordinated action and systematic planning among stakeholders	Community fragmentation has resulted in no central body taking the lead in addressing industrial and spatial issues

The above-mentioned challenges are intertwined, forming structural barriers that constrain the revitalization of Shodoshima. There is an urgent need for an external force capable of simultaneously impacting the island-wide vicious cycle to break the spiral of decline.

C. Research Methods

From the perspective of remote island revitalization, this study employs a combination of case study, literature analysis, and field research methods. The details are as follows:

- **Case study method:** This study systematically examines the development challenges faced by Shodoshima in Kagawa Prefecture across four dimensions: industry, space, tourism and community governance. Then it summarizes the four-dimensionally integrated revitalization practice pathway, thereby addressing the gap in existing research regarding the systematic revitalization logic of remote islands.
- **Literature analysis method:** This study reviews population statistics from the Kagawa Prefecture Statistical Bureau (2000-2025), regional revitalization plans of Shodoshima Town, official reports of the Setouchi International Art Festival, and domestic and international research findings on island revitalization. These materials provide data and theoretical support for challenge diagnosis and mechanism analysis.
- **Field research method:** In November 2025, the author conducted a seven-day field investigation on Shodoshima, visiting adaptive reuse projects of vacant spaces, cultural tourism nodes of traditional industries, and art installation sites. First-hand materials were obtained to intuitively analyze the intrinsic logic of spatial regeneration and cultural tourism development, ultimately distilling revitalization experiences applicable to similar remote islands.

3 Practical Pathways for the Revitalization of Shodoshima as a Remote Island

The Setouchi International Art Festival has provided a crucial catalyst for the regional revitalization of Shodoshima. It should be noted, however, that the art festival functions as a "catalyst" and a "showcase window" rather than an all-encompassing leading force. The island has undertaken systematic renewal across four dimensions: space, culture, industry and governance, forming a revitalization pathway characterized by internal-external synergy and a closed-loop interaction.

A. Spatial Revitalization: Adaptive Reuse of Vacant and Underutilized Spaces

In its spatial renewal, Shodoshima adheres to the principles of minimal intervention and landscape character preservation. Abandoned school buildings, aged soy sauce breweries and underutilized port facilities have been transformed into art exhibition spaces, cultural experience venues and public service facilities. By retaining the original architectural forms and local characteristics, these once-disused spaces have been reintegrated into the island's production and daily life systems. Table 2 summarizes three typical adaptive reuse pathways.

Table 2. Types and Strategies for the Renovation of Idle Spaces on Shodoshima

Original Space Type	Examples of Renovation Targets	Renovation Strategies	New Function
Educational Spaces	Disused primary schools and school buildings	Preserving the classroom layout and memories of the school grounds, whilst incorporating exhibition and workshop facilities	Art exhibition space, community exchange centre
Industrial Space	Abandoned soy sauce workshops and warehouses	Preserving traces of production such as wooden barrels and fermentation vats, transforming them into a craft demonstration area open to visitors	Brewing experience centre, industrial tourism facilities
Residential spaces	Vacant traditional townhouses and farmhouses	Structural reinforcement, preservation of earthen walls and timber textures, and flexible scheduling	Artist residency spaces, distributed guesthouses

Take the Monster Museum at the "MeiPAM Art Hub" as an example. Located in the "Labyrinth Town" of Tonosho, this museum comprises four buildings adapted from old folk houses and commercial warehouses scattered across the area. Hall No. 1, for instance, was converted from a kimono shop warehouse and displays traditional Japanese monster, while Hall No. 2, adapted from a soy sauce shop warehouse, exhibits large-scale monster artworks. The project strictly preserves historical traces such as wooden frames and earthen walls, creating an immersive experience through techniques like light, shadow, and sound. In addition to its permanent exhibitions, the museum regularly rotates its displays and hosts nighttime events such as the "Monster Trial Fright Festival" in summer. These initiatives have effectively extended visitors' length of stay and facilitated Shodoshima's transition from a "transit sightseeing destination" to a "purpose-built cultural hub".

B. Cultural Revitalization: Art Intervention and Indigenous Cultural Heritage

Leveraging the Setouchi International Art Festival, Shodoshima has achieved comprehensive revitalization of its indigenous cultural system through artistic intervention, promoting deep integration of culture and tourism. All artistic creations on the island are deeply embedded in the intrinsic qualities of their respective sites, rather than serving as mere landscape decorations. Representative artworks and their revitalization functions are presented in Table 3.

Shodoshima was home to approximately 400 soy sauce breweries; by 2024, only 15 remained. Between 2009 and 2023, the number of workers in this industry decreased from 232 to 187, a reduction of 20%.

Table 3. Representative Artworks and Their Indigenous Revitalization Functions on Shodoshima

Spatial Nodes	Representative Artwork	Core Revitalisation Function	Image of the Work
Gateway Port	Gift of The Sun	Creating a harbour landmark to enhance brand recognition for the 'Island of Olives'	
Gateway Port	STAR ANGER	Revitalising underutilised waterfront spaces and enhancing the appeal of transport hubs	
Historic District	Maze Town - Phantasmagoric Alleys	Revitalising the century-old street fabric, transforming idle residential properties into art experience spaces	
Terraced Farmland	Embrace Shodoshima	Blending terraced landscape with bamboo artistry to continue the artistic legacy of the Nakayama area	
Coast	The Mooring Pillar of Love	Linking maritime imagery with cinematic memories to enrich the cultural layers of cultural tourism hubs	
Agricultural Spaces: Olive Grove	Olive Plane Head	Revitalising agricultural production spaces and strengthening the image of the olive industry	

In the early stages of artistic intervention, certain cultural tensions emerged. For instance, when the sculpture Gift of the Sun at Tonosho Port was first unveiled, some residents initially mocked it. However, as the art festival continued to be held, some residents gradually transitioned from bystanders to volunteer docents, progressively developing a sense of community identity toward the artworks. Addressing the problem of superficial development in conventional tourism, Shodoshima leveraged the art festival to promote three major transitions. First, artworks were distributed across the island and combined with dispersed accommodation and nighttime experiences to extend visitors' length of stay. Second, numerous participatory workshops, such as noodle-making and oil-pressing, were introduced to shift tourists from "check-in" sightseeing to immersive engagement. Third, permanent artworks were packaged with industrial tourism into regular routes, continuously operated by resident docents even during non-festival periods. Through these measures, the average visitor stay was extended from less than five hours to 1.5 days, marking an upgrade from half-day sightseeing to multi-day in-depth experiential travel.

C. Cultural Revitalization: Art Intervention and Indigenous Cultural Heritage

Shodoshima has promoted the transformation of its three traditional industries: soy sauce brewing, olive cultivation, and hand-stretched somen noodle making: toward an integrated model of "production, experience, cultural creativity and tourism. "By bringing production processes from the "backstage" to the "front stage," traditional techniques themselves have become consumable tourism content, as shown in Table 4.

Table 4. The Cultural Tourism Transformation of Shodoshima's Three Traditional Industries

Industry Type	Original Business Model	Post-Transformation Business Model	Transformation Diagram
Soy Sauce Brewing	Traditional wooden barrel brewing and wholesale sales	Old factory building tours, brewing experiences, cultural and creative retail and related merchandise	
Industrial Space	Primary cultivation and oil pressing	Olive Park, sightseeing and picking, cultural and creative products, immersive experiences area open to visitors	
Residential spaces	Handcrafted Production and Wholesale	Workshops, speciality dining, souvenirs	

Following the transformation, the industrial revenue structure has shifted from a single "product sales income" model to a composite structure comprising "product income and experience, income and cultural creative derivative income," effectively enhancing industrial added value. Taking the soy sauce industry as an example, the core characteristic of Shodoshima's soy sauce lies in its adherence to the traditional kioke shikomi (wooden barrel brewing) process. According to statistics from the Shodoshima Soy Sauce Cooperative, the island currently possesses over 1,000 wooden barrels, accounting for more than one-third of Japan's total. The inner walls of these barrels host unique microbial communities specific to each brewery, imparting a distinctive flavor and aroma to the soy sauce. This scarcity value derived from barrel brewing has become a key factor attracting visitors, demonstrating the development potential of traditional industries toward tourism [9].

In the "Hishio-no-sato" (Soy Sauce Village) area of Shodoshima [10], the landscape improvement of soy sauce brewery buildings, along with the development of tourism offerings such as factory tours and brewing experiences, has been confirmed as a critical pathway for transforming traditional industrial resources into tourism assets. However, collaboration among individual breweries remains challenging, and the process of tourism resource utilization is characterized by uneven development.

D. Governance Revitalization: A Multi-Stakeholder Governance Support Mechanism

The continued progress of island revitalization relies on a collaborative network comprising four types of stakeholders: local government, art festival operating organizations, industrial operators, and community residents [11]. These stakeholders fulfill complementary functions and form a collective synergy. Their respective modes of participation are summarized in Figure 3. The collaboration among the four stakeholder groups has been gradually refined through continuous interaction. Among them, the "translational" role of local industrial operators is particularly critical. They not only possess the core content resources of traditional techniques but also have the capacity for market-oriented operation, serving as an important bridge between artistic intervention and economic output.

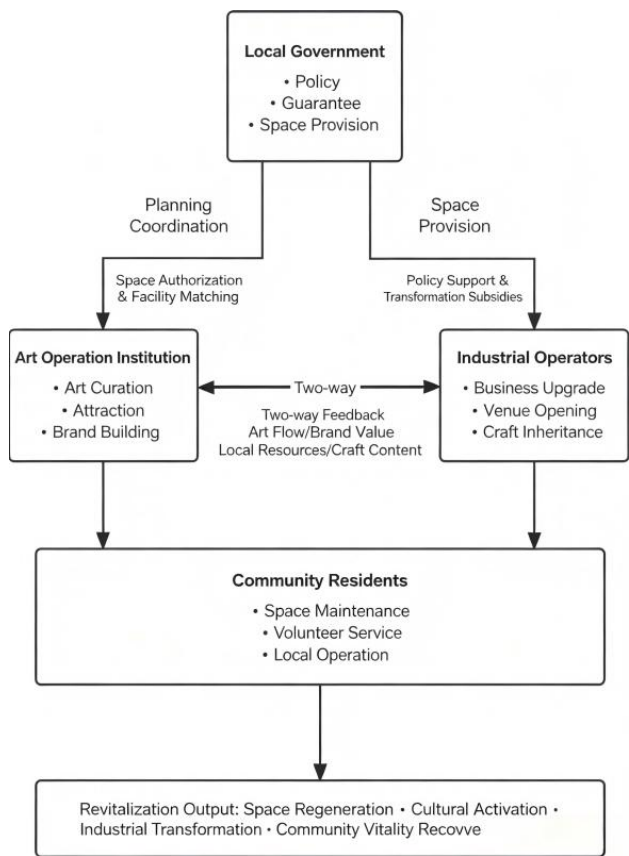


Fig. 3 Distribution Map of Tourism and Industrial Resources in Shodoshima

E. Beneficial Interaction Mechanisms Under New Endogenous Development

The revitalization practices across the four dimensions outlined above demonstrate that the success of Shodoshima does not rely solely on the mobilization of endogenous resources. More critically, it lies in the systematic construction of beneficial interaction mechanisms between internal and external actors, as well as between local and supra-local levels.

At the internal and external interaction level, the Setouchi International Art Festival-as an exogenous innovation event-has injected international artistic resources, global tourist flows, and external media attention into Shodoshima. In turn, through spatial revitalization, industrial transformation, cultural regeneration, and governance collaboration, Shodoshima has effectively converted external resources into endogenous development momentum. This model of "exogenous catalysis-endogenous absorption" has enabled a deep integration of internal and external resources.

At the local-supra-local interaction level, by participating in the Setouchi International Art Festival, Shodoshima has successfully embedded itself in the cultural tourism networks of Japan and the world. In terms of transportation, additional ferry services during the festival period have strengthened the island's physical connectivity with the outside world. In terms of information, the festival's global promotion has brought international visibility to Shodoshima's specialty products, such as olives, soy sauce, and somen noodles. In terms of the market, Shodoshima has been upgraded from a regional sightseeing destination to an internationally recognized art island, achieving a transition from "closed local practice" to "open supra-local practice."

It is precisely this mechanism of internal-external interaction and vertical-horizontal synergy that has enabled Shodoshima to transcend the limitations of the traditional endogenous development model—characterized by "reliance on internal resources and rejection of external forces"—and move toward the "internal-external symbiosis" path advocated by neo-endogenous development theory. The four-factor analytical framework of "Resources-Participation-Identity-Innovation" provides a theoretical tool for understanding Shodoshima's revitalization mechanism [12]. To visually present the above four-dimensional synergistic mechanism and its correspondence with neo-endogenous development theory, this paper constructs the following theoretical model, as shown in Figure 4.

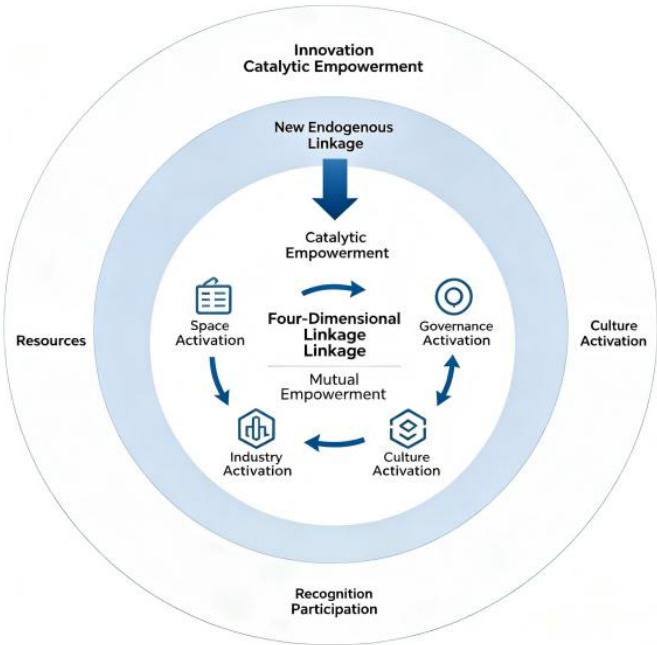


Fig. 4 Neo-Endogenous Four-Dimensional Revitalization Model of Shodoshima

4 Conclusion and Future Prospects

A. Research Findings

Taking Shodoshima, Kagawa Prefecture, Japan as a case study, this paper systematically investigates the revitalization of remote islands in the context of the Setouchi International Art Festival and draws the following conclusions.

First, traditional industry-based remote islands are prone to a vicious cycle of "industrial decline → spatial vacancy → low-end tourism → population outflow." The core crisis lies in the rupture of traditional craftsmanship and the erosion of its value, making piecemeal restoration ineffective.

Second, the practice of Shodoshima validates the core effectiveness of traditional endogenous development theory. The three elements of "resources, participation, and identity" emphasized by endogenous development theory [13] are fully evidenced in Shodoshima's revitalization process: spatial and industrial activation unlocked local material resources, cultural revitalization reshaped local identity, and multi-stakeholder collaboration ensured the sustainability of development [14]. This demonstrates that even in severely declining remote island regions, a development pathway centered on endogenous dynamics remains highly viable.

Third, the intervention of external innovation elements serves as an important complement to traditional theory. Taking the Setouchi International Art Festival as an external catalyst, Shodoshima broke the decline cycle and achieved a leap from "half-day sightseeing" to "in-depth cultural tourism," forming an "internal-external symbiosis" model.

Shodoshima provides empirical support for neo-endogenous development theory in the context of oceanic remote islands. Its four-element linkage framework of "Resources, Participation, Identity and Innovation" offers a transferable paradigm for the revitalization of similar remote islands worldwide.

B. Limitations and Future Prospects

This paper has the following main limitations. The research is primarily qualitative in nature, lacking systematic substantiation through long-term quantitative data. The town of Tonosho was not included in a whole-island comparative analysis, resulting in an incomplete understanding of the overall revitalization pattern of the island. Furthermore, as an external observer, there may be blind spots in understanding the complex social networks and power relations within the local community.

Future research can be advanced in the following directions. First, multi-year economic and demographic data should be supplemented to scientifically evaluate the actual effectiveness of revitalization efforts. Second, Tonosho should be incorporated into a whole-island comparison to examine the similarities and differences in renewal models across different areas. Third, cross-case comparisons should be conducted between Shodoshima and similar islands in China to explore the applicability boundaries and improvement strategies of this revitalization model under different institutional and cultural contexts. Fourth, long-term follow-up studies should track the post-festival operations of the art festival, the long-term development of industries, and mechanisms of community participation, so as to provide more robust

academic support for the sustainable revitalization of remote islands.

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Authors' information

Pin Wang is a graduate student at the School of Design, Dalian Minzu University.

Dan Zhang is an associate professor at the School of Design, Dalian Minzu University, and concurrently serves as the Associate Dean of the school.

References

- [1] Wang Z., Wang X. A Study on the Impact of Urbanization on Industrial Structure Transformation in the Chengdu-Chongqing Urban Agglomeration: A Comparison with the Beijing-Tianjin-Hebei, Yangtze River Delta, and Pearl River Delta Urban Agglomerations [J]. Northwest Population Journal, 2021, 42(3): 1-11. DOI: 10.15884/j.cnki.issn.1007-0672.2021.03.001.
- [2] Kagawa Prefecture. my-kagawa (in English) [EB/OL]. [2026-05-18]. <https://www.my-kagawa.jp/en>.
- [3] Shodoshima Tourism Association. Shodoshima Official Tourist Information (in English) [EB/OL]. [2026-05-18]. <https://shodoshima.or.jp/en>.
- [4] Official Guide to Setouchi Triennale 2025 [EB/OL]. ART SETOUCHI. [2026-05-19]. <https://setouchi-artfest.jp/en/>.
- [5] Chen J. H., Wang C. Y., Tang N. X., et al. A Study on the Types, Spatial Distribution, and Tourism Development Models of Tourism Resources in the Seto Inland Sea Region of Japan [J]. World Regional Studies, 2024, 33(11): 65-78.
- [6] Japanese Government Plans to Revise Applicable Criteria of the "Remote Islands Revitalization Act" [EB/OL]. Global Times, 2013-01-07. <https://world.huanqiu.com/article/9CaKrnJyumR>.
- [7] Zong Z. Z. Research on the Activation and Utilization Strategy of Rural Idle Space from the Perspective of Catalyst Theory [D]. Inner Mongolia University of Technology, 2021. DOI: 10.27225/d.cnki.gnmgu.2021.000567.
- [8] Qin Z. W. Spatial Vitality Analysis and Optimization Design of Traditional Villages from the Perspective of Cultural Heritage [D]. Central South University of Forestry and Technology, 2025. DOI: 10.27662/d.cnki.gznlc.2025.000803.
- [9] Ishido, W. The Potential of Tourism Town Development Utilizing

Traditional Industries as Tourism Resources: A Case Study of "Soy Sauce Making" on Shodoshima Island [J]. *Journal of Tourism Development Studies*, 2025, 5(1/2): 1-9.

- [10] Fu K. L., Kawazoe, W., Wang Y. Z., Nakayama, R., Suzuki, S., Usui, H., Sakamoto, Y., Liu, Y. F., Ayata, Y., Sugitani, H., Matsui, K. Development and Characteristics of Tourism Resource Utilization on Remote Islands: A Case Study of "Shō no Sato" (Soy Sauce Village) on Shodoshima Island [J]. *Geographical Studies*, 2023, 41: 27-38.
- [11] Mo T., Xu R. P., He W. H. Research on the Transformation Development Mechanism and Optimization Path of Island Villages from the Perspective of Actor Network Theory: A Case Study of Mayi Island, Zhoushan, Zhejiang [J]. *Journal of Zhejiang Ocean University (Humanities Edition)*, 2025, 42(6): 13-21.
- [12] Luo Q. Q., Su Y. Q. The County-Level Logic of Rural Revitalization in Underdeveloped Areas: Based on an Analytical Framework of "Resources-Participation-Identity-Innovation" [J]. *Journal of Guizhou University of Finance and Economics*, 2026, (2): 53-62.
- [13] Zhang W. M. New Development Philosophy: Theoretical Construction and Innovation of Endogenous Development in China [J]. *Frontiers*, 2025, (21): 91-99. DOI: 10.16619/j.cnki.rmltxsqy.2025.21.011.
- [14] Tan Z. M., Zhou B. L. Multi-Stakeholder Collaborative Mechanisms for the Spatial Extension of Intangible Cultural Heritage Transmission [J/OL]. *Northwestern Journal of Ethnology*, 1-13 [2026-05-19]. <https://doi.org/10.16486/j.cnki.62-1035/d.20260331.001>.