

# Protection and Revitalization Strategies of the Landscape Space of Foshan Liang Garden

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**Abstract** Foshan Liang Garden, as a unique cultural heritage in the Lingnan region, possesses high artistic, scientific, and cultural value. Through field surveys and literature research, this paper sorts out the current problems in the protection and utilization of Foshan Liang Garden, establishes the basic principles of emphasizing both protection and revitalization and implementing them simultaneously, and summarizes methods for protection and utilization, including expanding funding channels, strengthening dynamic monitoring and scientific protection, exploring cultural connotations, and encouraging multi-stakeholder participation in joint construction. Furthermore, it proposes revitalization strategies such as empowering garden services with digital technology, integrating cultural resources to innovate cultural and creative products, promoting the museumization of idle functional spaces, and using cultural and educational activities for inheritance and dissemination. It is hoped that these measures will help Foshan Liang Garden better integrate into modern life, meet people's diverse needs, and provide new ideas and methods for the protection and utilization of garden cultural heritage.

**Keywords** Liang Garden, Classical Garden, Protection, Revitalization

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Foshan Liang Garden is one of the four great classical gardens in the Lingnan region. In its garden construction, it draws on the gardening techniques of both northern imperial gardens and southern private gardens. The landscape layout and spatial design of Liang Garden are deeply integrated with regional culture and literati sentiments, showcasing a unique garden style. It is an important sample for in-depth research on the gardening art of Lingnan private gardens. Currently, academic research on Liang Garden mainly focuses on the analysis and discussion of the gardening characteristics, artistic conception, plant arrangement, and design techniques of individual landscape groups and the overall landscape. Most of these studies remain at the level of research on the garden art itself, with insufficient consideration of the protection and development of the garden and how to further integrate it into modern society. The revitalization and utilization of the garden space is a good solution to the current development dilemma faced by Liang Garden and an important way to rejuvenate Liang Garden in contemporary society.

This study takes Foshan Liang Garden as the research object and employs a comprehensive approach, including literature review, field investigation, and summary. It sorts out the multiple values of Liang Garden, analyzes the current problems in its protection and utilization, and summarizes the basic principles and specific

strategies for protection and revitalization. It provides a systematic solution for the functional transformation and adaptive reuse of the space of Foshan Liang Garden and offers experience and reference for the scientific protection and revitalization of similar historical gardens.

## 1 Overview of Foshan Liang Garden

### 1.1 Analysis of basic features

Foshan Liang Garden, located in Foshan, Guangdong, is a private garden constructed by the Liang family during the Qing Dynasty (Fig.1). In terms of its plan layout, the garden adopts the basic spatial form of a front courtyard and a rear garden. The garden space is divided into two parts: the eastern part, which is dominated by a cluster of buildings, including the Budao Residence, the Cishi Family Temple, the Qiushuang Pavilion, the Qunxing Thatched Cottage, the Risheng Study, and the Boat Hall, and the western part, which features a central lake with structures such as the Stone Boat and Yun Bridge arranged along its edge. The entire garden is designed to meet the basic needs of daily life, including living, recreation, social gatherings, and sacrificial activities. The landscape space is well-proportioned in density, with a harmonious interplay between architecture and garden elements, reflecting the Lingnan garden design wisdom of integrating courtyards and gardens ("unity of courtyard and garden"). It combines

practical living functions with the refined tastes of literati. In terms of spatial treatment, the garden follows the traditional hierarchical order, creating a series of progressive courtyard spaces, with the Qunxing Thatched Cottage area being the most typical example. Through its well-arranged spatial organization, it creates a unique garden space, achieving the effect of "a small space encompassing all things"<sup>[1]</sup>.

### 1.2 Value analysis

As an important garden cultural heritage in the Lingnan region, Liang Garden possesses multiple values. First, it has artistic value. As a representative of traditional Lingnan gardening art, the landscapes (Fig.2), architecture, and carving art within Liang Garden all demonstrate a very high level of artistic achievement (Fig.3-4). Whether it is the exquisite spatial layout<sup>[2]</sup> or the overall gardening techniques and the exquisite craftsmanship of architectural decorations, they all highlight the distinctive features of Lingnan gardens. Second, it has cultural value. The creation of Liang Garden is deeply integrated with the regional culture of the Lingnan area and the aesthetic sentiments of Lingnan literati, showcasing unique cultural charm. Moreover, as "one of the rare examples of traditional Chinese literati gardens with official and merchant backgrounds in a unique historical period"<sup>[3]</sup>, Liang Garden holds special cultural significance. Third, it has scientific value. The internal spatial architecture, landscape design, and visual control within Liang

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Garden follow relatively scientific principles and methods, reflecting the wisdom of traditional human settlement construction in the Lingnan region.

## 2 Current issues in the protection and utilization of Foshan Liang Garden

### 2.1 Insufficient protection funding

At present, the funding for the protection of Liang Garden mainly relies on government financial allocations. However, the local government's special budget for cultural heritage protection is limited and must be balanced with other livelihood and economic projects, leading to inadequate funding allocation. Additionally, social capital rarely enters the protection funding projects of Liang Garden. On the one hand, this may be due to the public's lack of awareness of cultural heritage protection. On the other hand, there is a lack of scientific and standardized donation mechanisms and transparent institutional safeguards. Moreover, Liang Garden itself has insufficient self-sustaining capabilities. Although it charges admission as a tourist attraction, its overall revenue is low and only supports daily operations, with little funding available for specialized protection and restoration work.

### 2.2 Outdated protection methods

Although the government has carried out multiple protection, restoration, and upgrading projects for Liang Garden, the existing protection measures and methods are relatively outdated<sup>[4]</sup>. The current protection still relies on traditional manual restoration and experiential judgment, with limited application of high-tech techniques. This results in delayed problem detection and an inability to accurately identify risks. The protection work lacks systematicness and a multi-disciplinary collaborative mechanism, with insufficient expertise in fields such as materials science and ecology. For example, during restoration processes, outdated materials or techniques are used, and the application of new eco-friendly materials is ignored, exacerbating material aging. Plant protection is based solely on experience in selecting tree species, without ecological analysis to restore vegetation diversity. Furthermore, the garden lacks a scientific management system. Monitoring of the garden relies solely on manual patrols, which cannot achieve dynamic supervision and refined protection.

### 2.3 Unreasonable resource protection

Despite efforts in the protection of garden cultural heritage, Liang Garden still exhibits unreasonable resource protection, mainly in the following ways: First, there is an imbalance in

protection targets. Currently, the focus is mainly on the restoration of Qing Dynasty buildings and vegetation maintenance at the material level, while the intangible cultural aspects of the garden space are neglected. There is insufficient exploration of historical anecdotes and the traditions of literary gatherings related to Liang Garden, resulting in an incomplete understanding of its cultural connotations by visitors. Second, the protection methods are rigid. The protection of garden cultural resources still relies on static forms such as artifact display and textual interpretation, lacking interactivity and dynamic protection and inheritance.

### 2.4 Singular protection and utilization methods

In recent years, Liang Garden has begun to explore methods and strategies for protection and utilization. However, the current situation shows that the means of protection and utilization are still relatively singular. The existing development and utilization model is limited to traditional sightseeing tourism, lacking innovative interactive experience projects in contemporary cultural and creative industries. Despite its profound historical background as a representative of Lingnan classical gardens, Liang Garden's cultural products are still dominated by static displays, which struggle to attract younger audiences. The intangible cultural elements carried by Liang Garden, such as Cantonese opera performances and traditional crafts, have not been fully explored and cannot form a competitive advantage.

## 3 Protection and revitalization strategies for Liang Garden Landscape Space

### 3.1 Basic principles

Garden cultural heritage is both a witness to history, carrying specific historical and cultural values, and a participant in modern social development, providing rich recreational experiences and cultural edification for people in modern society. Therefore, in dealing with the landscape space of Liang Garden, the basic principle of emphasizing both protection and revitalization and implementing them simultaneously should be adopted. This principle emphasizes the interdependence and dynamic balance between protection and revitalization. First, it elevates protection and revitalization to an equally important level, changing the traditional situation of prioritizing protection over revitalization. This conceptual shift is used to promote the continuous protection and functional regeneration of Liang Garden's

landscape space. Second, protection and revitalization are not separate but are carried out simultaneously. The technical support for protection work and the innovation of revitalization forms are synchronized. Only in this way can the deep integration of protection and revitalization be achieved<sup>[5]</sup>.

### 3.2 Methods of protection and utilization

The protection and utilization of Liang Garden's landscape space should not only adhere to the basic principle of emphasizing both protection and revitalization and implementing them simultaneously but also adopt scientific and rational methods of protection and utilization.

**3.2.1 Expanding funding channels.** Actively seek government special funds and include Liang Garden's protection, utilization, and renovation projects in key government-supported projects. Explore mechanisms for introducing social capital and public-private partnership models, establish a public welfare fund for Liang Garden's protection, attract donations from enterprises, social organizations, and individuals, and engage local cultural and tourism enterprises in operations. Achieve economic benefits to support protection work while ensuring cultural attributes. These measures can alleviate the problem of insufficient funding and form a sustainable protection and utilization cycle.

**3.2.2 Strengthening dynamic monitoring and scientific protection.** Utilize Internet of Things sensor technology to monitor key indicators such as temperature, humidity, light, and plant pests in the garden in real time. Combine drone aerial photography and 3D laser scanning technology to establish digital archives of the garden's space and rock mountains, accurately recording changes in buildings, plants, and water systems. At the same time, develop graded protection standards and emergency plans for different categories, and form a team of interdisciplinary experts to regularly assess the effectiveness of protection measures, ensuring that restoration techniques follow the "minimum intervention" principle. Through the synergy of dynamic monitoring and scientific management, it is possible to slow down natural aging and human destruction while maximizing the retention of the garden's historical authenticity.

**3.2.3 Uncovering cultural connotations.** Conduct in-depth exploration of the historical culture behind Liang Garden. Establish digital archives for inscriptions, couplets, and poems within the garden to promote and protect its historical and cultural values<sup>[6]</sup>. Combine modern settings to recreate elegant gatherings and drama activities,



and conduct educational tours, allowing visitors to experience cultural edification through immersive experiences. Additionally, collaborate with universities in South China to offer garden aesthetics courses, using Liang Garden as a practice base to cultivate cultural identity among the younger generation. Through multidimensional exploration and innovative expression, transform Liang Garden from a static heritage site into a dynamic cultural dissemination carrier.

**3.2.4 Multi-stakeholder participation in joint construction.** Break through the limitations of a single management entity and build a governance model with multi-stakeholder participation. The government is responsible for policy improvement and system building at the macro level. Communities and professional institutions are responsible for daily patrols and technical support, respectively. Public participation can be achieved through practical projects such as “adopting ancient trees” and “micro-donations for restoration”, engaging in

specific protection and utilization projects of Liang Garden. In addition, a multi-party joint meeting mechanism should be established to regularly negotiate and resolve contradictions in protection and utilization, safeguarding the sustainable development of Liang Garden. Multi-stakeholder joint construction not only integrates resources and wisdom but also forms a positive ecosystem of social governance, ensuring the continuous inheritance of Liang Garden in the process of modernization.

### 3.3 Revitalization strategies

To better serve modern people with the landscape space of Liang Garden, appropriate revitalization and utilization paths need to be chosen.

**3.3.1 Empowering garden services with digital technology.** Empowering cultural heritage protection and revitalization with digital technology has become a consensus. In the revitalization process of Liang Garden’s landscape space, high-precision 3D scanning can be used

to establish digital data archives, combined with augmented reality (AR) technology to develop interactive garden tour guide systems. Scanning the QR code at each landscape node can trigger the reproduction and display of virtual historical scenes, allowing visitors to enter the activity scenes of Qing Dynasty literati gatherings in Liang Garden, enhancing their sense of identification with the garden space<sup>[7]</sup>. Intelligent monitoring systems can be introduced, deploying temperature and humidity sensors and AI cameras to monitor building aging and visitor flow in real time, providing data support for dynamic protection.

**3.3.2 Innovating cultural and creative products** by integrating cultural resources. Cultural and creative products have a deep consumer base and are also a must-have for tourists visiting scenic spots. The architectural, sculptural, and historical scene elements of Liang Garden can be deeply explored. On the basis of balancing traditional aesthetics and modern functions, these elements



Fig.1 Foshan Liang Garden



Fig.2 Internal Waterside Courtyard Landscape of Liang Garden



Fig.3 Interior Architecture: The Cishi Family Temple



Fig.4 Architectural Carvings of the Lotus Fragrance Pavilion

can be abstractly translated into geometric patterns and integrated into creative products such as refrigerator magnets, bookmarks, tea sets, folding fans, keychains, notebooks, and clothing. This approach retains the cultural core while catering to the aesthetic preferences of young people. Digital collections can also be designed in combination with garden artifacts and Cantonese opera performances, and unique script-killing scripts based on Liang Garden stories can be developed.

**3.3.3 Promoting museumization of idle functional spaces.** Museumization of garden space is an effective way to reasonably utilize idle garden space resources and increase educational participation spaces<sup>[8]</sup>, enhancing the dissemination and educational functions of garden historical and cultural heritage. In some idle spaces of Liang Garden, suitable venues can be selected to establish a special exhibition hall for Lingnan garden-making techniques. Interactive technology can be used to display traditional Lingnan garden-making techniques such as rock stacking and water management, and digital sand tables can be introduced to dynamically demonstrate the historical evolution of Liang Garden's landscape space.

**3.3.4 Inheriting and disseminating through cultural and educational activities.** The dynamic utilization and cultural inheritance of garden space can be continuously ensured through cultural and educational activities. Students from nearby primary and secondary schools can be organized to conduct educational tours in Liang Garden, forming a complete educational route in combination with surrounding scenic spots. At the same time, regular Cantonese opera

performances, tea art appreciation, and poetry creation activities can be held to attract local residents and visitors, achieving the goals of cultural education and dissemination.

## 4 Conclusion

Lingnan classical gardens, as an important part of Chinese classical gardens, have their own unique gardening characteristics and distinct features. Foshan Liang Garden, as one of the four famous gardens in Lingnan, has achieved a high level of gardening art and possesses significant artistic, cultural, and scientific value. However, during the current protection and utilization of Foshan Liang Garden, several issues have emerged, including insufficient protection funding, outdated protection methods, unreasonable resource protection, and singular means of protection and utilization. These problems are also common in many historical gardens. This study has proposed corresponding protection and revitalization strategies for these issues, emphasizing the basic principle of emphasizing both protection and revitalization and implementing them simultaneously. It adopts methods of protection and utilization such as expanding funding channels, strengthening dynamic monitoring and scientific protection, exploring cultural connotations, and encouraging multi-stakeholder participation in joint construction. It also implements revitalization strategies such as empowering garden services with digital technology, innovating cultural and creative products by integrating cultural resources, promoting museumization of idle functional spaces, and inheriting and disseminating through cultural and educational activities. These methods

and approaches can provide valuable experience and reference for the sustainable development of similar historical gardens.

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should be selected to reduce maintenance costs and water resource consumption. The weight distribution of these two indicators provides clear directional guidance for the breeding and cultivation practice of colored-leaf trees, and has important reference value for promoting the scientific application of colored-leaf trees.

Although AHP is systematic and practical, it is highly subjective. Especially in the application of the 1-9 scale method, the evaluation results are easily influenced by experts' experience. Furthermore, the comprehensive evaluation indicator

system constructed in this study also has limitations. For instance, ecological adaptability indicators such as salt and alkali tolerance and annual growth have not been fully incorporated, which requires further in-depth exploration.

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