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# The Concept, Classification and Characteristics of Sleeping Resources in Guangdong Hong Kong Macao Great Bay Area

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**Abstract:** Under the background of the construction of Guangdong Hong Kong Macao Great Bay area, there are a large number of underutilized "sleeping resources" in the region, which restricts the overall efficiency improvement and the coordinated development of urban and rural areas. Based on the reality of Dawan District, this paper defines the narrow and broad connotation of sleeping resources, and divides its system into four categories: culture, nature and ecology, economy and industry, and society and space from three dimensions: value attribute, sleeping state and regional characteristics. It then analyzes its three characteristics of value diversification and concealment, spatial cluster and cross-border, regional strategy and urgency. Combined with the development trend of digital economy, it puts forward the innovation strategy of resource activation, in order to provide theoretical reference and practical guidance for the resource integration, value release and high-quality coordinated development of Guangdong Hong Kong Macao Greater Bay area.

**Keywords:** Sleeping resources; Guangdong Hong Kong Macao Greater Bay area; Million project; Resource activation

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## 1. Introduction

Under the strategic background of comprehensively promoting the construction of Guangdong Hong Kong Macao Great Bay area, the region has become an important engine of China's economic development with its unique geographical advantages, rich resource endowment and strong economic foundation. However, in the process of high-speed urbanization and industrial transformation and upgrading, there are still a large number of "sleeping resources" in idle or inefficient use in the region, covering idle production capacity of traditional industries, inactive historical and cultural assets and various elements that have not been fully activated by the digital economy. The "sleeping" state of these resources not only causes a waste of resources, but also restricts the improvement of regional overall competitiveness and the depth of urban-rural integration development. With

the in-depth implementation of the "million project" in Guangdong Province and the vigorous rise of the digital economy wave, how to systematically identify, scientifically classify and effectively activate these sleeping resources has become a key issue to promote the sustainable development and common prosperity of Guangdong Hong Kong Macao Great Bay area. The purpose of this study is to combine the development conditions of Dawan District, clarify the concept and connotation of sleeping resources, build its classification system, analyze its core characteristics, and explore the activation path under the empowerment of digital economy, in order to provide theoretical support and practical framework for the optimal allocation of regional resources, potential release and strategic synergy.

## 2. Basic connotation of sleeping resources

### 2.1. Sleeping resources in a narrow sense

Sleeping resources in a narrow sense mainly refer to those specific tangible elements with clear physical form and long-term idle or inefficient utilization. Its core features are "entity existence" and "functional stagnation". In the context of Dawan District, such resources are typical, such as old industrial plants and warehouses vacant due to industrial transfer or upgrading. For instance, idle dwellings in traditional villages hollowed out by the outflow of population, and corner plots or abandoned facilities temporarily shelved in the process of urban renewal. These resources have complete physical carriers, but their original functions have faded or failed to meet the new development needs, and have not been timely transformed into cultural and creative space, community service places or new industrial carriers. Their potential value is limited to the physical reuse and functional transformation of existing space.

### 2.2. Sleeping resources in a broad sense

The broad sense of sleeping resources breaks through the category of tangible entities, and points to the collection of all elements with potential value but not fully activated, covering tangible and intangible resources and their associated values. It not only includes idle assets in a narrow sense, but also extends to intangible cultural skills (such as intangible cultural heritage in the face of inheritance crisis), social capital (such as the network of hometown of overseas Chinese that is not effectively linked), technical knowledge (such as untransformed process know-how in traditional industries) and brand value (such as aging regional industrial brands). In addition, the broad concept emphasizes the collaborative value between resources. For example, if the beautiful ecological landscape and unique local culture exist in isolation, their composite value will be in a "sleep" state. Therefore, sleeping resources in a broad sense refer to the sum of various elements that cannot be identified, integrated and maximized in their multi-dimensional values (economy, culture, ecology and Society) due to cognitive, technological, mechanism or market constraints. Their activation focuses more on value discovery, element restructuring and system innovation.

## 3. Classification of sleeping resources in Guangdong Hong Kong Macao Great Bay Area

### 3.1. Classification basis of sleeping resources

The scientific classification of sleeping resources in Guangdong Hong Kong Macao Bay area is mainly based on the following three core dimensions:

(1) Value attribute dimension: According to the core value orientation of resources, it is divided into "cultural

category" focusing on historical memory and cultural inheritance, "natural and ecological category" emphasizing ecological service function, "economic and industrial category" focusing on production factors and market value, and "social and spatial category" focusing on social relations and spatial justice;

(2) Sleeping state dimension, which can be divided into "completely idle type" (such as abandoned plants), "inefficient utilization type" (such as a protected area with single function) and "value masking type" (such as unrecognized cultural value) according to the degree of resource availability, so as to distinguish activation difficulty and intervention focus;

(3) The dimension of regional characteristics, which closely combines the institutional complexity of the "One country, Two systems, Three Customs Zones" in Dawan District, the profound cultural heritage of the hometown of overseas Chinese, the world-renowned manufacturing foundation and the significant internal development gradient (such as the difference between the core area of the Pearl River Delta and the eastern and northwestern regions of Guangdong), to ensure that the classification system fits the regional reality and reflects the unique pattern of resource distribution and the particularity of activation challenges.

## 3.2. Main categories of sleeping resources

### 3.2.1. Cultural sleeping resources

Such resources carry the deep historical context and unique local identity of Dawan District, but they are facing severe challenges under the impact of modernization. It mainly includes traditional villages and ancient dwellings, such as Fengjianshui Township and Kaiping Diaolou group in Shunde. These villages "formed earlier, have rich traditional resources, and have certain historical, cultural, scientific, artistic, social and economic values", but are generally faced with material decline and population hollowing out [1]. Intangible cultural heritage, such as Guangzhou embroidery and Cantonese opera, as a "living and carried by human life activities" cultural style, has prominent problems of aging and disconnection from modern life [2]. Industrial heritage, that is, "industrial cultural relics with historical, technical, social, architectural or scientific value", such as the ruins of Foshan old ceramic workshop and Jiangmen paper mill, whose historical value and technical memory have not been fully explored [3]. The historical context space, such as the arcade block in Guangzhou, has great potential for cultural narrative, but is currently lack of vitality.

### 3.2.2. Natural and ecological sleeping resources

Such resources have important ecological regulation and service functions, but the path to realize the value of ecological products is not smooth. It mainly includes coastal wetland and tidal flat resources, such as mangrove in Shenzhen and Qi'ao Island wetland in Zhuhai, which are facing "huge pressure and threat" in the rapid urbanization [4,5]. At present, the development of ecotourism and education functions is insufficient. Idle land resources, including abandoned agricultural land and hollow village homestead in the urban-rural fringe, have resulted in "waste of land resources, thus affecting resource utilization" and have not been effectively transformed into green infrastructure [6]. Potential tourism resources, that is, things that "currently do not have the conditions for development or the degree of development is not enough, but are likely to be developed into tourism resources in the future", such as the geological landscape of Yanzhou island in Huizhou and the ancient post road in southern Guangdong, have been "kept in purdah for a long time because of insufficient supporting facilities" [7].

### 3.2.3. Economic and industrial sleeping resources

Such resources used to be the engine of economic growth in Dawan District, but now their potential is limited due to the lag of transformation. It mainly includes county characteristic industrial clusters, such as Chaozhou ceramics and Zhongshan mahogany furniture, as the "core carrier of high-quality development of county economy", currently have "problems such as unbalanced market, insufficient factor guarantee and short industrial chain", and the brand added value is low [8]. Idle assets and inefficient production capacity, such as old commercial bodies and old factories of collective enterprises in various cities and towns, with intact physical space but outdated business functions and low utilization rate. Agricultural resources and rural products, such as Zengcheng litchi, Sihui sugar orange and other geographical indication products, generally have the problems of insufficient deep processing, short industrial chain and poor integration of agriculture, culture and tourism, and the economic value has not been fully released.

### 3.2.4. Social and spatial sleeping resources

Such resources maintain social network and collective memory, but their functions degenerate due to social changes. It mainly includes hollow villages and communities. Under the background of accelerated urbanization, "the force of most rural settlements began to be unbalanced" [9]. Some communities in western Guangdong and other places have a very low utilization rate of public service facilities due to the outflow of young adults. Inefficient public spaces, such as urban corners and spaces along the old railway, lack design and community participation, and fail to be transformed into dynamic places for public activities. The social capital of the hometown of overseas Chinese, such as the overseas Chinese approval files and the former residences of the family members of overseas Chinese in Jiangmen and other places, connects millions of overseas Chinese and is a valuable carrier of cultural identity. However, at present, the local activation and overseas linkage mechanism is not perfect, and its strong social network value has not been effectively activated.

## 4. Characteristics of sleeping resources in Guangdong, Hong Kong and Macao Greater Bay Area

### 4.1. Diversity and concealment of value composition

The sleeping resources in Dawan district are generally characterized by multiple values. A single resource often contains multiple value dimensions such as culture, ecology, economy and society. For example, the Sangji fish pond system in the Pearl River Delta is not only an important agricultural cultural heritage (cultural value), but also has a unique ecological cycle function (ecological value). It can also develop characteristic tourism and agricultural products (economic value), and maintain a specific community production mode (social value). However, due to the lack of systematic evaluation, recording and dissemination mechanism, this multiple value is in a highly "hidden" state. Many industrial heritages and traditional villages have not yet established complete value archives, resulting in their real value not being fully recognized by the government, the market and the public, which constitutes the primary obstacle to activation.

### 4.2. Clustering and cross-border nature of spatial distribution

Sleeping resources are not isolated and scattered in space, but show a significant cluster distribution trend, and often break through the administrative boundary to form resource corridors. Cultural resources are closely connected along the Xijiang Pearl River waterway, forming a traditional village group in Guangfo and Zhaoqing,

and a building belt in Zhongjiang Zhuhai overseas Chinese hometown. Ecological resources are distributed in circles around the Pearl River Estuary, such as the deep pearl mangrove wetland group and the island chain around the bay. Industrial inefficient assets exist in Dongguan Huizhou, Foshan Zhongshan and other traditional manufacturing agglomeration areas. What is particularly prominent is its "cross-border nature", where it is reflected in the fact that the resource corridor crosses multiple urban administrative boundaries. On the other hand, the social capital of the hometown of overseas Chinese has formed a unique "local overseas" two-way cross-border network. For example, the overseas Chinese approval files in Wuyi area are closely linked to hundreds of overseas Chinese groups. This spatial characteristic requires that the activation strategy must have regional synergy and international vision.

### 4.3. Strategy and urgency of regional development

It is of far-reaching strategic significance and realistic urgency to revitalize the sleeping resources for the Greater Bay area of Guangdong, Hong Kong and Macao. From a strategic perspective, this is a key measure to improve the overall allocation efficiency of regional resources, explore new economic growth points, promote the coordinated development of urban and rural areas, and implement the "hundred million project" and high-quality development requirements, directly serving the major national strategy for the construction of Guangdong Hong Kong Macao great Bay area. From the perspective of urgency, in the process of rapid urbanization and industrial upgrading, if the sleeping resources are not effectively intervened in time, their physical carrier may accelerate the decline (such as building collapse), intangible culture may disappear permanently (such as non-lost transmission), and social capital may continue to flow. At the same time, the enabling window period brought about by the digital economy is fleeting. It is an urgent requirement to identify, evaluate and activate these resources in time with the help of digital technology to avoid the permanent annihilation of their value and miss the best opportunity for transformation.

## 5. Innovation path of digital economy enabling sleeping resources activation

### 5.1. Digital technology integration and value digging path

Digital technology is the key to penetrate the "invisibility" of resources and realize the explicit and accurate evaluation of their multiple values. It can use 3D laser scanning, UAV tilt photography and other technologies to digitally archive cultural heritage and historical buildings, build high-precision "digital twin" models, and permanently preserve and visualize their spatial and structural information. Through big data analysis, the market demand, tourist interest and potential related industries of sleeping resources (such as specific intangible cultural heritage and local products) are mined to achieve precise positioning. The blockchain technology is used to establish a tamper-proof value certificate and traceability system for unique cultural resources and ecological products (such as carbon sink), support its subsequent capitalization and capitalization operation, and implement the concept of "working capital" mentioned by Wu [10].

### 5.2. Platform operation and multiple collaborative paths

Drawing on the integrated thinking of the "area + project" mechanism, an online–offline resource activation and operation platform should be established [11]. The online platform can integrate key functions such as a database of underutilized resources in the Dawan District, a policy support toolbox, supply-demand matchmaking, crowdfunding, and maker services, thereby serving as a comprehensive portal for resource display, investment

promotion, and collaborative development. Offline, guided by government leadership and supported by market-oriented operations and broad social participation, targeted "micro-renovation and refined upgrading" initiatives can be implemented in specific areas, such as historic towns or former industrial zones, while introducing new business models aligned with the digital era, including digital cultural and creative industries, smart agriculture, and immersive experience services. At the same time, coordination among multiple stakeholders should be strengthened. The government provides planning guidance and policy safeguards, professional operating teams undertake market-based operations, and local residents and communities participate deeply through mechanisms such as resource equity participation and profit-sharing. Together, these measures can foster a sustainable community of shared interests.

### 5.3. Innovation mechanism and long-term development path

A comprehensive institutional framework should be established to ensure the long-term sustainability of resource activation projects as outlined:

(1) Innovation in property rights and benefit distribution mechanisms is required, including the exploration of digital property rights registration, convenient transfer procedures, and income guarantee systems for underutilized resources, particularly rural idle homesteads and collectively operated construction land, within the framework of the "separation of three rights";

(2) A closed-loop mechanism integrating "resource activation, industrial cultivation, and income feedback" should be developed, whereby a portion of the revenues generated by activation projects is reinvested in continuous resource maintenance, the enhancement of community public services, and youth entrepreneurship funds, thereby stimulating endogenous development momentum;

(3) Monitoring, evaluation, and dynamic adjustment mechanisms should be strengthened by leveraging digital platforms to track the comprehensive social, economic, cultural, and ecological benefits of projects. This approach can ensure that the activation process remains aligned with the goals of sustainable development and common prosperity, while enabling timely strategy optimization based on feedback.

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## Disclosure statement

The authors declare no conflict of interest.

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