

# Research on the Method of Integrating the Regional Culture of the Yellow River's "Jiziwan" into the Urban Waterfront Landscape Design

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**Abstract:** The Yellow River "Jiziwan" across central and western Inner Mongolia is an area where the Yellow River Basin's natural pattern and regional culture interact more intensely. The cities along the river are built on the river, and the waterfront space not only bears the ecological protection function but also carries the task of urban life and cultural display. At present, some waterfront landscapes have problems such as superficial cultural extraction, loose spatial connection, and a single experience mode. Regional culture has not yet formed a stable design language. Based on the identification of regional cultural resources, combined with the ecological conditions and public needs of urban waterfront space, this paper analyzes the value, principles and practical problems of cultural integration into landscape design, and puts forward the implementation methods from three aspects: symbol translation, spatial organization and experience communication. The research holds that the design should establish the screening criteria of cultural resources, form the spatial structure of zoning and grading, and realize cultural activation through a system of activities that can be participated in. This method can provide a reference for the construction of urban waterfront landscape along the Yellow River, and also help to improve the recognition of local culture, improve the quality of public space, and promote regional culture into daily life.

**Keywords:** The Yellow River "Jiziwan"; Regional culture; Urban waterfront landscape; Landscape design; Cultural activation

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## 1. Introduction

The "Jiziwan" of the Yellow River is a geographical unit connecting the upper and middle reaches of the Yellow River. The river form, agricultural and animal husbandry production and multi-ethnic communication form a distinct regional culture <sup>[1]</sup>. With the acceleration of urban renewal along the Yellow River, waterfront space has gradually shifted from a flood-control shoreline to a public living space, and landscape design also needs to coordinate ecological, cultural, and use needs. Although some projects adopt the color of the Yellow

River, ethnic patterns or historical sculptures, the cultural expression mostly stays at the decorative level, and there is a lack of continuous relationship between landscape nodes. Residents' perception of site culture is still limited <sup>[2]</sup>. The ecological protection and high-quality development of the Yellow River Basin have put forward new construction requirements for cities along the route. The waterfront landscape should not only maintain the safety of the riverbank, but also undertake the task of cultural inheritance and city image shaping <sup>[3]</sup>. Therefore, it is necessary to analyze the path of entering the landscape space from the perspective of the regional cultural composition of "Jiziwan". The purpose of this paper is to clarify the realization path of the Yellow River's "zigzag" regional culture into the waterfront landscape, and to provide design reference for improving the accuracy of cultural expression, enhancing the use value of waterfront space and promoting the regional cultural heritage of cities along the Yellow River <sup>[4]</sup>.

## **2. The basic analysis of the integration of the Yellow River's "Jiziwan" regional culture into the urban waterfront landscape design**

### **2.1. Analysis of characteristics of regional cultural resources**

The natural environment and social life shape the regional culture of the Yellow River. The Yellow River, the Kubuqi Sandy Land and the Hetao Plain constitute the regional ecological basis, and the water-soil relationship has long affected the settlement distribution and production mode. The Hetao Irrigation District has formed a distinct farming culture, while the grassland area retains the tradition of nomadic production and seasonal migration. Regional cultural resources include ancient city sites, ferries, water conservancy projects, folk activities and local narratives. Its core value is reflected in the long-term historical process of people and rivers. Due to the different resource conditions of each city, landscape design should not only refine the common content of the Yellow River culture, but also highlight local differences and avoid using a single symbol instead of the real regional culture <sup>[5]</sup>.

### **2.2. Analysis of waterfront landscape fusion value**

The integration of regional culture into waterfront landscape can enhance the identification of places and improve similar problems in urban landscape forms along the Yellow River. After the spatial transformation of water conservancy, ferry memory and agricultural and pastoral life in Hetao, it can enter the tour lines, nodes and public facilities, so that the ordinary waterfront green space has a clear local direction. Cultural themes can also guide residents to understand the history of the site in the process of walking, relaxing and viewing, and reduce their dependence on the spread of exhibition boards <sup>[6]</sup>. At the same time, cultural expression can connect ecological restoration and public use, so that riparian vegetation, flood control facilities and activity space form an overall relationship <sup>[7]</sup>. The establishment of environmental identity in the continuous use of residents will help to increase the frequency of use of waterfront space and form a stable urban public memory.

### **2.3. Analysis of landscape design fusion principle**

The integration of the Yellow River's "Jiziwan" regional culture into the waterfront landscape should adhere to the principles of authenticity, ecological adaptation and public use. Cultural content must come from verifiable historical data and real life, and clarify the source and spatial meaning of elements. Waterfront design should also comply with the requirements of flood control safety and shoreline protection <sup>[8]</sup>. Facilities and plants should be selected according to water level changes, wind and sand conditions and seasonal

temperature differences to avoid excessive hardening. The scale, location and amount of information of cultural facilities should be in line with the walking experience and take into account the daily activities of residents. Different nodes can set different themes, but materials, colors and logos should be coordinated. At the same time, a durable and easy-to-maintain construction method should be adopted to control the number of facilities and ensure that cultural expression can be used for a long time <sup>[9]</sup>.

## **2. The Yellow River's "Jiziwan" urban waterfront landscape design problems**

### **2.1. Insufficient extraction and expression of regional culture**

The extraction of regional culture in the waterfront landscape design of some Yellow River "Jiziwan" cities is still relatively general. In the early stage of design, there is a lack of systematic investigation, and common symbols such as the Yellow River, desert or ethnic patterns are often used directly. There is no distinction between natural culture, production culture, and urban memory, and some content also lacks clear sources. In terms of expression, cultural elements are mostly concentrated on sculptures, reliefs and billboards. Patterns are repeatedly used for paving or railings, and it is difficult to present the process of cultural formation <sup>[10]</sup>. The lack of theme levels between different nodes can easily cause symbol repetition and content superficiality. Although residents can see the cultural identity, it is difficult to understand the history and life content behind it, and the landscape is also difficult to form a stable place identification.

### **2.2. Insufficient utilization of waterfront space structure and function**

Some waterfront landscapes are still mainly composed of levees, green belts and trails, and there is no smooth connection between urban roads and river banks. The height difference treatment is relatively rigid, and the number of hydrophilic platforms is insufficient. The continuous trail will also be affected by the parking lot or the management room, which will reduce the overall traffic efficiency. The spatial function distribution is also uneven. The core nodes concentrate on the square and service facilities, while the ordinary bank section lacks shading, stay and cultural display space. Some projects focus on large landscape nodes, but ignore the daily needs of the elderly and children. Cultural facilities and leisure functions are separated from each other. There is a lack of stay conditions around the sculpture, and the activity site also lacks thematic content, which leads to a weak connection between the city, the riverbank, and the people, and the regional culture is difficult to be continuously perceived through daily use.

### **2.3. Lack of cultural experience communication and interaction form**

The existing waterfront culture dissemination relies more on text panels and static sculptures, and the form of information is relatively simple. The contents of some exhibition boards are long, and the location is not in line with the rhythm of the tour. Residents rarely stop to read in their daily lives. Some digital facilities only provide two-dimensional code links; the content is updated slowly, and the practical effect is limited. There is also a lack of stable connection between cultural activities and site construction. After the festival performance, the site often lacks follow-up use. Local skills display mostly adopts temporary stalls and has not yet formed a fixed space and management mechanism. There is no subdivision of the participation methods of different groups of people, and interactive projects are easy to stay at the photo level. The lack of participation of communities and folk artists also makes it difficult to update the cultural content continuously, and the waterfront landscape has not yet formed a long-term and stable cultural exchange space.

### **3. Integrating the Yellow River's "Jiziwan" regional culture into the waterfront landscape design method**

#### **3.1. Constructing the translation of regional cultural symbols**

Aiming at the problem of insufficient cultural extraction and expression, a workflow of "investigation, screening, translation and verification" should be established. After the project was launched, the designers combined with local cultural and historical researchers to carry out data collection. The contents of the survey include river changes, settlement formation and production methods, and oral stories and local skills, which should also be recorded. After the completion of the data, a cultural resource table was established to clarify the resource name, spatial location and actual status. A text description and an image accompany each resource, and the source of the data is marked to prevent the meaning of the symbol from being unclear.

The screening stage should be evaluated according to regional representativeness, public awareness and spatial suitability. The Yellow River water conservancy culture with common significance can be used as the theme of the whole line, and local ferries or industrial relics can be used for specific nodes. The design team can use a three-level structure to organize cultural content. The first-level content determines the overall theme of the waterfront landscape, the second-level content corresponds to different bank sections, and the third-level content enters the facility details. The upper limit of quantity should be set for each level of content to prevent excessive information. This can not only maintain the overall connection, but also avoid the repeated use of a pattern.

The original graphics cannot be directly copied in the translation stage. Designers should extract the morphological relationship, material characteristics or behavior patterns in cultural resources, and then select the appropriate carrier. The graphic application should first complete the small-scale sample draft, and then make the on-site sample section. The focus of the check includes whether the meaning is accurate, whether the position is reasonable, and whether the use is convenient. Finally, the design atlas of cultural elements is formed, and the proportion of graphics, material specifications, and application scope are unified as the basis for construction, acceptance, and later updates.

#### **3.2. Optimization of waterfront space organization and scene construction**

Aiming at the problem of insufficient utilization of spatial structure and function, the spatial organization mode of "coastline segmentation, node classification and function composite" should be established on the basis of a continuous tour line. Before the design, the water level, terrain and current traffic survey should be completed, and the shoreline should be divided into ecological conservation section, life leisure section and cultural display section. Ecologically sensitive areas control construction intensity and retain beaches and native plants. The shore section near the residential area increases the space for daily activities, and the area with historical remains undertakes the function of cultural display.

The waterfront tour line should connect urban roads, community entrances and public transport sites. For the embankment with a large elevation difference, a gradual transition of gentle slope, steps, and viewing platforms can be adopted. The main walkway ensures continuous passage, and the branch line enters the wetland or cultural node. Rest points are set at appropriate distances, and shading and drinking water facilities are configured. Nodes are arranged according to the city level, district level, and community level. City-level nodes undertake large-scale activities, district-level nodes display local themes, and community-level nodes serve daily use. Connections between nodes at all levels are established through unified identification.

Scene construction should combine cultural facilities with practical functions. The cultural gallery can be used as a rest space, the water conservancy theme device can be used for rainwater collection, and the local materials can be used for benches and retaining walls. Night lighting should highlight the safety of trails and node identification to avoid excessive lighting. When the scheme is implemented, a section of shoreline can be selected for sample construction, and the number of people, residence time, and facility usage can be continuously recorded. The scale and function are adjusted according to the evaluation results, and then extended to other shore sections. Through segmented construction, on-site testing and use feedback, the risk of one-time renovation can be reduced, and the spatial method can be guaranteed to adapt to different urban conditions.

### **3.3. Establish cultural experience dissemination and activation utilization**

In view of the lack of cultural experience and communication, static displays should be transformed into daily activities that can be participated in, and a long-term operation mechanism should be established. First, set the experience content according to different groups of people. Children can understand the Yellow River environment through water conservancy models and natural observations. Youth groups can participate in cycling tours and digital punch cards. Elderly residents can participate in storytelling and traditional skills activities. The experience project should correspond to the specific node to avoid all the content being concentrated in the large square.

Secondly, a low-maintenance digital communication system should be built. The content of the two-dimensional code is mainly short text, audio and historical pictures, and a unified page is set. Important nodes can be configured with inductive voice navigation, but the number of devices should not be too many. Digital content needs to be regularly updated by the management unit, and the community can provide oral materials. In the design stage, the background maintenance personnel and update cycle should be clarified to prevent long-term shutdown after the completion of the facilities. For seasonal activities, the route and time can be released through the waterfront guide map, so that the online information is consistent with the on-site space.

Thirdly, a normal activity plan should be formed. Small open venues can be set up for folk artists and community organizations in the cultural display section. A fixed theme is arranged monthly, and the content can be centered on solar terms, ferry stories, or riparian plants. The activity facilities adopt movable tables and chairs and modular exhibition racks for easy adjustment. In management, a mechanism for the participation of government, community and social institutions can be established. The government is responsible for safety and site maintenance, the community is responsible for personnel organization, and social institutions provide professional activities. Quarterly statistics on the number of participants and the use of feedback to evaluate the effectiveness of the activities. Adjust the content with low participation rates over time, and form a fixed brand for popular projects. Through the simultaneous construction of space, content, and management, the waterfront landscape can become a cultural place for continuous use.

## **4. Conclusion**

The regional culture of the Yellow River “Jiziwan” is formed by the river environment, production and life, and urban development. It has the characteristics of continuous distribution and local differences. Integrating it into the urban waterfront landscape should not stay at the level of pattern decoration and static display, but should establish a complete process from resource identification to space implementation. Aiming at the three problems of insufficient cultural expression, insufficient space utilization and insufficient interactive communication, this paper

puts forward the methods of cultural symbol translation, spatial organization optimization and cultural activation and utilization. The three types of methods cooperate with each other to enable cultural content to enter tour routes, facilities and public activities, and form a constructable and maintainable operation path. Future research can carry out field verification in combination with specific cities, and improve design standards and operational mechanisms based on hydrological conditions, cultural resources and residents' evaluation, so as to provide reference for waterfront landscape construction in other cities along the Yellow River.

## Disclosure statement

The authors declare no conflict of interest.

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