1. BACKGROUND

The Lai Clan Settlement Regeneration Project in Hangzhou addresses the fate of a historic district on the urban-rural fringe faced with urbanization. The Project is part of Tongji University's Chang Qing Studio's Qiantang River Town protection and regeneration design series.

The Lai family and its many branches lived in their clan settlement over the past 800 years. On the south bank of the Qiantang River, their settlement was originally part of Xiaoshan County. In 1996 the area was annexed by the city of Hangzhou and became part of the municipal Binjiang district. In the past under the traditional patriarchal clan system, the Lais were both farmers and scholars, producing many outstanding officials and Confucian scholars from the Song and Ming dynasties onwards. In Changhe Town's history, as tangible heritages, the 'Jiu Ting Shi San Tang' ('Nine Halls and Thirteen Pavilions') were one of the most supernormal refined style buildings in the settlements in south of the lower reaches of the Changjiang River.

Over the past sixty years, and especially in past twenty years, the prominent Lai clan has been in decline, and many of their famous and historic groups of buildings have been remade in simple modern styles. Canals, drainage systems and ponds have been leveled, creating much pollution. The historic town business center has largely disappeared, the local government facilities have fallen into disrepair and living standards are down. Haphazard urbanization of the part of their area that faces the river has favoured new over old built environment and ruined the traditional character of the place. On the other hand within the town center most of the built vernacular and topological structure, as well as many of the old houses, remain. Many of the Lai descendants still live there, meaning there is still the possibility of extending or rejuvenating the old local heritage. Although there are many of these old towns adjacent to other large cities in China, there is value in researching and discussing the preservation and regeneration of this one clan settlement.

Context with Hangzhou city

Location of Changhe Town (Qing Dynasty)

Distribution of clan Lai's 'Jiu Ting Shi San Tang'

Portrait of Lai Duanrong

The dash ( ) indicates the root of the descent. The arrow ( ) indicates the continuity of the descent.

Pedigree of clan Lai
2. OBJECTIVE

The key objective is to realize the structural conservation, i.e. to maintain the natural and cultural ecological system, which is the presupposition to control the regeneration design. That means to preserve and rehabilitate the traditional water village's river and street systems, the textures of the groupings of houses, their proportionality and directional axes, and cultural conventions acting as some psychological hints of ‘Feng Shui’, etc.

The design strategy tries to resolve three key problems:
1) how to continue the historic topography; to maintain the land context and to preserve landmarks in the historic areas of the towns from remote to late past.
2) how to make the old spaces suitable for the contemporary requirements of people who live there.
3) how to form a new texture composed of both local vernacular features and today's modern life space.

3. METHODOLOGY

Anthropological investigation and analysis

After three years of on-the-ground investigating of the Lai Clan descendants, members of the design team have become more than just guests in the community (from etic to emic). The researchers have performed many specific roles: listening to old stories, asking today's residents to draw images of the past, investigating old portraits and documents, researching even the most detailed aspects of their old buildings, and assessing the types and classes of buildings.

Design of living functions and settings

Before the design plan can be put forth, it is necessary to plot the needs of residential spaces and future tourism, for example, the new function of pavilions and halls, and the ultimate use of space. Within the design plan it is not only necessary to pay attention to the uses of different types of residences, but also to address the relationships amongst households and neighbours as a function of the original inhabitants' lifestyle concepts.

Plugging design of new and old spaces

Design steps include the following: 1) Modification of the original road system, 2) Restoration of the original water-transport system and pedestrian walkways, 3) Refining the original clusters of houses, 4) Reconstruction of new vernacular buildings, and 5) Integration of old landscape with new.
Within the characteristic local vernacular culture there are both original places and original styles, mature streets and plots of land, preserved and restored waterways, old streets and buildings (including interior spaces) which are all important. Within these categories we will select representatives that best fit the ‘Jiu Ting Shi San Tang’ style.
4. FOCUS

Da Fu Di
- Before rehabilitation
- Site of the Da Fu Di
- Restoration plan
- Restoration of Da Fu Di
- Remain of Hui Zong Tang
- Site of the Hui Zong Tang
- Restoration plan
- Hui Zong Tang

Guang Yu Tang
- Before rehabilitation
- Site of the Guang Yu Tang
- Rehabilitation plan
- Restoration of Guang Yu Tang

He Hua Chi
- Remain of He Hua Chi
- Site of the He Hua Chi
- Restoration plan
- Restoration of He Hua Chi
Beyond saving important traditional streets and houses, we will also select stereotypical buildings from the recent past that are still useful; as in public and industrial buildings. The Changhe Theatre, as a prime example of the 1950s-70s revolutionary modern style of public buildings, will be saved and upgraded as it is still useful as well as having value as a memorial of that age.

Renewal analysis of the Changhe Theatre 'Revolutionary modern style' landmark
Within the topological structure and texture of the clan settlement's make-up, we have to meet some key issues when we 'plug in' new construction materials and modern structures, as we improve the environment, save costs and energy. For example, what will be the justification for the passive use of earth energy with the hollow walls, dredging rivers and repairing the waterways, when new building methods favour the use of different types of lightweight steel and concrete system in housing construction.
4. FOCUS

Since 2002 there have been three overall conceptual design schemes. The final scheme incorporates the first two concepts: ‘differing old from new,’ and ‘creating new from old.’

Overall the focus of this design is to grasp the topological structure and lifestyle change of the clan settlement and re-enliven it, to integrate different types of cultural legacies as well as new and old design factors, and to weave an area’s history into the progressive center of the new portion of Hangzhou.

---

PARAMETER

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GROSS PLOT AREA</strong></td>
<td>26.52 ha.</td>
</tr>
<tr>
<td><strong>FLOOR AREA</strong></td>
<td>182633 m²</td>
</tr>
<tr>
<td><strong>BUILDING AREA</strong></td>
<td>69384 m²</td>
</tr>
<tr>
<td><strong>PRESERVED FLOOR AREA</strong></td>
<td>50177 m²</td>
</tr>
<tr>
<td><strong>FAR</strong></td>
<td>0.69</td>
</tr>
<tr>
<td><strong>PRESERVED AREA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PLOT AREA</strong></td>
<td>8.24 ha</td>
</tr>
<tr>
<td><strong>FLOOR AREA</strong></td>
<td>43406 m²</td>
</tr>
<tr>
<td><strong>PRESERVED FLOOR AREA</strong></td>
<td>37454 m²</td>
</tr>
<tr>
<td><strong>FAR</strong></td>
<td>0.53</td>
</tr>
<tr>
<td><strong>CONTROLLED AREA</strong></td>
<td></td>
</tr>
<tr>
<td><strong>PLOT AREA</strong></td>
<td>18.28 ha</td>
</tr>
<tr>
<td><strong>FLOOR AREA</strong></td>
<td>139227 m²</td>
</tr>
<tr>
<td><strong>PRESERVED FLOOR AREA</strong></td>
<td>12723 m²</td>
</tr>
<tr>
<td><strong>FAR</strong></td>
<td>0.76</td>
</tr>
</tbody>
</table>

---

1. Changhe River
2. Huai River Street
3. Ze Street
4. Preserved Pond
5. Square
6. Hui Zong Tang•Community Club
7. Guang Yu Tang
8. He Hua Chi
9. Du Fu Di
10. Town House
11. Apartment
12. Changhe Theater
13. Kindergarten
14. Bus Station
15. Tian Guan Apartment
16. Holiday Inn