Sustainable buildings can be defined as "those buildings that have minimum adverse impacts on the built and natural environment, in terms of the buildings themselves, their immediate surroundings and the broader regional and global setting" (Hasegawa, 2003). At present, there are many schools of thought on sustainable architecture or green building. In general, it is believed that cradle-to-cradle design will enable an ecologically intelligent approach to architecture (McDonough and Braungart, 2003) and life-cycle thinking is a key to the sustainable construction concept (Kohler and Moffatt, 2003).

Although the general principles of sustainable building are not too hard to understand, there are many aspects and issues about the sustainable building practices that need to be studied and evaluated carefully. When people try to study the related concepts and practical applications, they often find it difficult to locate good information sources, practical examples and key references. In order to promote sustainable design and planning of buildings, efforts have been made to develop the following Internet Websites to provide useful information and resources to all the interested persons (including developers, building designers, researchers, students, etc.). This R&D work is an extension of the Web-based learning environment developed by Hui and Cheung (1999) and a side-product from the research on building energy efficiency and sustainable architecture.

At present, there are three Websites established at the University of Hong Kong (HKU).

• Case Studies on Sustainable Buildings http://www.hku.hk/mech/sbe/case_study/index/top.htm

A knowledge base of case studies and resources is established to illustrate the sustainable design strategies and features in realistic building projects all over the world. The database of case studies can be searched by project names, locations, design strategies and design features.


Key information is collected from various sources and organised in a systematic way for efficient study and exploration of the subjects.

• References on Sustainable Buildings http://www.hku.hk/mech/sbe/refs/index.html

Selected references including books, reports, audio/visual materials and journals are listed. Most of the materials can be found in the HKU Libraries. To facilitate retrieval, links are provided to the library catalogue system for further information and study.

It is hoped that by disseminating the Internet resources, more people could learn about the sustainable building concepts and a better understanding of the sustainable design strategies can be achieved at all levels of the society. Comments, suggestions and requests for corrections are welcomed.

References


Dr. Sam C. M. Hui
Department of Mechanical Engineering
The University of Hong Kong
cmhui@hku.hk
Practicing the Built Tradition in Tai O Hong Kong

The meaning of revitalizing vernacular neighborhoods in post-traditional environment

Gary YEUNG

In 2000, Hong Kong government decided to develop Lantau Island as an 'International Leisure Island'. Part of the proposal is to build the fifth Disneyland amusement park and a cable car system connecting to the world biggest outdoors bronze Buddha in Ngong Ping. Tai O settlement was identified as one of the major Hong Kong cultural heritages that will be revitalized and opened for tourism. Few months after public announcement of the development proposal, a disastrous fire happened in Tai O that destroyed over a hundred stilt houses (about one third of the village houses).

After the fire, rehabilitation of the local villagers who lost their houses became the most important issue. The preservation strategy will no longer simply upgrade the existing structures but also need to include proposals for the reconstruction of new stilt houses. However, over the years, the architectural significance of Tai O stilt house was notably lacking in all studies. With minimum understanding on the built tradition of stilt houses, how to resume the authentic nature of water village will be a difficult task. "How to build a stilt house?" and "Who builds it?" become another crucial subject under consideration. In the meantime, suggestion like introducing the style of Malaysian Longhouse in future Tai O developments was strongly objected by local and professional parties.

Official revitalization plan for Tai O was never consolidated. However, re-construction process autonomously started by Tai O villagers in 2001. The author joined a local construction team to take a critical examination at the construction process of traditional stilt houses. The construction team was lead by Mr. Cheung Hoi Chuen, a 75-years-old indigenous Tai O villager and the only master builder in the village who acquires traditional stilt house construction techniques. Mr. Cheung’s construction team has already rebuilt 15 new stilt houses for local villagers from year 2001 to 2006. Local villagers of Tai O still follow the tradition of forming agreement on word of month. The builders and the house owners have shown a high degree of trust upon each other. Direct interaction between the builders and the users ensures a custom built house that would reflect the individual needs and social trend. This paper will present the ongoing revitalization progress in Tai O. Through comparison of the newly built stilt houses; it will look into the transformation of local practice as a result of adaptation to post-traditional moment.

1. An Old Story of the Fishing Village

The settlement in Tai O first appeared about two hundreds years ago. It was established by some South China fishermen who decided to move ashore but still tried to maintain a close relationship with the waterscape. Tai O stilt house is a unique architectural typology that evolved from the construction of Sampan (A type of traditional South China fishing boat).

Stilt houses were firstly settled in Yat Chung, Yi Chung and Sam Chung. Later, stilt house developed along the river bank between Tai O Island and Lantau Island. The main local economy was salt production and fishery. These two industries declined after 1980s. This indigenous settlement in Hong Kong can barely survive under the rapid modernization of the city. However, most villagers of the younger generation moved to the city in search of better opportunities and the vernacular neighborhood is gradually weakened.

2. Architectural Study on Stilt House

Vernacular architectures have often been figurative calibrators that reveal the very nature of living traditions. The living style of the early Tai O people inspired the creation of unique habitat that has a close integration between the waterscape and the villagers. The construction of stilt house reflects local people affection to the social and climatic needs. Based on field studies on the visual evidences in the existing context, four major stages of transformation of stilt house design are identified in terms of structural system, period of appearance, material, program requirement and spatial proximity.

2.1. The First Appeared Stilt House: The Boat and Their Dwelling

Stilt houses first appeared in early 18th century. The inhabitants were mainly fishermen, known as Tanka people. They were floating population who spent their lives on Sampans. In order to acquire a more secure environment for their family, some of the fishermen decided to move ashore. These fishermen employed readily available materials (bamboo, wood planks and palm leaf), and put up shelters with the most basic construction skills. They replicated the structure of their Sampans and created the earliest vaulted-shape stilt house. This original stilt house inherited many similarities with that of sampans in terms of its structure and spatial configuration. Footprint of vaulted-shaped stilt house varies from 12ft-24ft and the height, at the highest point, is about 6ft-7ft. Residents said that some extinguished structure with headroom about 5ft high. The house is supported by wall system.

2.1.1. General Configuration and structure

The interior is usually divided into two to three compartments only for sleeping and a place for...
the ancestor’s altar. Electricity is insufficient in the past. Therefore most of the daily activities, like making meal, knitting nets and processing salted fish, are performed in outdoor front stage. A ladder leading to the water located in the front stage to provide a convenient access to boats that tied underneath. Some residents provided additional platform beneath the structure for keeping live stocks such as pigs and chickens.

Interior compartments are divided by partitions that made up of wooden planks. Bowed bamboo strips were used for the structural ribs of the vault-shaped roof. The exterior envelope was clad with wood planks and the roof is protected with palm leaves. Finally, the whole assembly was wrapped with galvanized sheet metal and secured with metal wire.

The whole structure was then sat on stone pillars that slotted into the riverbed. Stone pillar was usually 1 ft x 5-inch. The length of the pillar was about 6 ft and the footing was 4 ft deep. A semi-circle was carved at each pillar head to receive the main floor beam. Six stone pillars were required for a 14-ft-long vault-shaped stilt house. Some local residents said that these earliest structures were not strong enough. The stone pillars collapse easily and the whole structure would shift away when heavy flooding happened.

2.2. Stilt House Modification: Strengthening the Roof Structure

Before 1950s, all stilt houses are vaulted-shape. As the local villagers acquired better construction skills, they started to improve the stability of the structure. The most significant structural modification at this stage was the roof system. The vaulted roof was replaced with simple truss systems enclosed with wood planks and galvanized sheet metal over roof rafters. The stilt house now looks like a small hut with pitch roof. Apart from the roof, other features of the houses remained similar to the previous style. Local residents said that this typology was only popular for a very short period of time because the inherent foundation problem was not resolved. This type of stilt house was soon evolved into Type Three, which employed a more appropriate material for the foundation.

2.3. Stilt House Evolution: The Application of Kwan Din Wood

Eusideroxylon zwageri, or Kwan Din Wood as the locals called it, is a kind of ironwood species mainly exploited from South East Asia counties. This wood has a reddish brown color. It is strong and very resistant to water. It has been widely used in boat making and heavy constructions. At some point, the local villagers started to reuse old fishing boats for making stilt house. They gradually realized that Kwan Din wood is the perfect material for buildings over water. In the 50s, stilt house with Kwan Din wood as pillars first appeared. It soon replaced stone pillars as the main support for stilt houses.

2.3.1. General configuration and structure

The structure is a simple wood framing system. The structural system is strong and flexible enough to allow penthouses then later, the second story to be added to the house. Two-story houses have remained the most popular configuration until nowadays. Government restricted the height limit to 12 ft so the mean height of every floor is about 6 ft. The size varies from rectangular layout, 15 ft x 10 ft to square layout, 12 ft x 12 ft. First floor is living space with place for the ancestor’s altar. Sleeping space is at the back. Second floor is solely allocated for sleeping. In some houses, storage area was located at the backstage or on the second floor. Kitchens and toilets were separate structures located at the front stage. Front stage is both communal and sacred space. They are usually sheltered with canopy so they can be used even in rainy days. Family ceremonies and funeral services were also carried out in the front stage.

2.3.2. Flexibility and complexity

In the third generation of stilt houses, Kwan Din wood column extended from footing to the superstructure of the house. Each structural framework can be independently standing over water or become an attachment of the major structure. The modular framing system allows extension in any direction. Two isolated frameworks can also be connected with footbridge or front stage.

2.4. After the Fire: The Reborn of Stilt House

This stage of transformation is identified for those built after the fire in July 2000. A dramatic difference in terms of its scale and programmatic requirement with respect to the previous type was observed.

2.4.1. Change in building scale

The government has stopped the construction of new stilt houses as a control of squatter areas sprawl over the last twenty years. After the fire, the government allowed victims to rebuild their stilt houses in-situ. The maximum size of each new house is limited to the footprint of the previous licensed structure, which can be obtained from Lands Department. Only the height limit was released from 12 ft to 15 ft based on the consideration of fire rescue. However, as the old stilt houses were the result of generations of modifications. Over the years, individual stilt house structure...
Analysis of the third generation stilt house

became part of a continuous structural cluster. The asymmetrical disposition of forms and variety of contrasting textures of the place enriched the physical profile of Tai O. On contrary, only the maximum footprints were considered for the new stilt houses. As a result, they appeared as single bulky structures. Since the government would not count on area for enclosed space, additional balcony is allowed to build over the front stage that accessed from the second floor. This is the best place to enjoy the big sky at night!

2.4.2. Change in programmatic requirement

Many villagers of the younger generation have already moved to the city. For some families, the new stilt houses will just be weekend resorts for leisure. New activities can be seen on the front stage such as barbecue.

3. A Case Study on the New Stilt House Reconstruction

A field study was carried to document the construction process of a new stilt house. The subject for study was the twelfth stilt house rebuilt after the fire. The licensed resident was Mr. Wong Kam Shui. Mr. Cheung Hoi Chuen was the master builder leading a construction team of local villagers, Mr. Leung Sai Ngau and Mr. Wong Chi Keung. The construction commenced on 20th July 2002 and completed on 18th September 2002. The construction crew works six days a week except during adverse weather conditions. The construction procedure is summarized in the table below.

According to the government record, area of this stilt house was registered as 17 ft x 18 ft. However, the original structure was actually two houses sharing a party wall. After his application for modification was reviewed, Mr. Wong was granted permission to build two individual structures each with 17 ft x 9 ft footprint. The two structures would need to be separated by a 4 ft-wide emergency access. According to the government’s new fire safety guidelines, the new structures can be 15 ft instead of 12 ft as the original house.

Total construction cost of this house was about HK$250,000-HK$280,000. The construction team was employed on daily basis. The house owner and the builders had only verbal agreements. The house design was constantly refined throughout the process. After a brief discussion with the builders about the site and spatial requirements for the new house, Mr. Wong decided on a lucky date for commencement.

The owner arranged by himself for materials and transportation. During the construction, he almost visited the site everyday to check on the progress and answer questions from the builders.

Sometimes Mr. Wong would also help with some paint jobs or moving building materials around. Government officers would visit the site weekly to take pictures of the construction process and make sure the new house complied with the official record. The house owner would need to provide clarification with written statements if any discrepancy was found.

### Construction Diary of the Twelfth Rebuilt Stilt House

<table>
<thead>
<tr>
<th>DATE</th>
<th>EVENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>20/7</td>
<td>Commencement Ceremony</td>
</tr>
<tr>
<td>21/7</td>
<td>Temporary working platform</td>
</tr>
<tr>
<td>22/7</td>
<td>Digging hole for pillar installment</td>
</tr>
<tr>
<td>23/7</td>
<td>Pillar installment</td>
</tr>
<tr>
<td>24/7</td>
<td>G/F beams, joists, framing installment</td>
</tr>
<tr>
<td>25/7</td>
<td>SUNDAY</td>
</tr>
<tr>
<td>26/7</td>
<td>Temporary working platform (front stage)</td>
</tr>
<tr>
<td>27/7</td>
<td>1/F beams, joists, framing installment</td>
</tr>
<tr>
<td>28/7</td>
<td>Roof rafters, purlins installment</td>
</tr>
<tr>
<td>29/7</td>
<td>Wall sheathings installation</td>
</tr>
<tr>
<td>1/8</td>
<td>Roof sheathings installation; G/F beams (front stage)</td>
</tr>
<tr>
<td>2/8</td>
<td>Sheet metal siding installation</td>
</tr>
<tr>
<td>3/8</td>
<td>SUNDAY</td>
</tr>
<tr>
<td>4/8</td>
<td>Sheet metal siding installation</td>
</tr>
<tr>
<td>5/8</td>
<td>G/F; joists and framing installation (2nd Twin)</td>
</tr>
<tr>
<td>6/8</td>
<td>TYPHOON SIGNAL NO.8</td>
</tr>
<tr>
<td>7/8</td>
<td>Laying Ceremony of Ridgepole (1st Twin)</td>
</tr>
<tr>
<td>8/8</td>
<td>Sheet metal siding (1st Twin); framing (2nd Twin)</td>
</tr>
<tr>
<td>9/8</td>
<td>Roof rafters, purlin installment (2nd Twin)</td>
</tr>
<tr>
<td>10/8</td>
<td>SUNDAY</td>
</tr>
<tr>
<td>11/8</td>
<td>Wall sheathings installation (2nd Twin)</td>
</tr>
<tr>
<td>12/8</td>
<td>Roof deck installment (1st Twin)</td>
</tr>
<tr>
<td>13/8</td>
<td>Laying Ceremony of Ridgepole (2nd Twin)</td>
</tr>
<tr>
<td>14/8</td>
<td>Roof rafters installment (front stage)</td>
</tr>
<tr>
<td>15/8</td>
<td>Floor deck installment</td>
</tr>
<tr>
<td>16/8</td>
<td>Framing installment (kitchen and toilet); staircase</td>
</tr>
<tr>
<td>17/8</td>
<td>Wall sheathings installation (kitchen and toilet); 2nd staircase</td>
</tr>
<tr>
<td>18/8</td>
<td>Wall sheathings installment (front stage)</td>
</tr>
<tr>
<td>19/8</td>
<td>Roof purlins installation (front stage)</td>
</tr>
<tr>
<td>20/8</td>
<td>Floor beams and purlins installment (podium)</td>
</tr>
<tr>
<td>21/8</td>
<td>Wall sheathings installment (front stage)</td>
</tr>
<tr>
<td>22/8</td>
<td>Sheet metal siding (front stage)</td>
</tr>
<tr>
<td>23/8</td>
<td>SUNDAY</td>
</tr>
<tr>
<td>24/8</td>
<td>Floor deck and railings installation (podium)</td>
</tr>
<tr>
<td>25/8</td>
<td>Roof rafters and purlins installment (podium)</td>
</tr>
<tr>
<td>26/8</td>
<td>Internal partitions</td>
</tr>
<tr>
<td>27/8</td>
<td>Structural bracings; completion</td>
</tr>
<tr>
<td>28/8</td>
<td>Interior fitting-out</td>
</tr>
<tr>
<td>29/8</td>
<td>MATERIAL SHORTAGE</td>
</tr>
<tr>
<td>1/9</td>
<td>SUNDAY</td>
</tr>
<tr>
<td>1/9</td>
<td>Floor deck installment (open corridor)</td>
</tr>
<tr>
<td>16/9</td>
<td>Move-in Ceremony</td>
</tr>
</tbody>
</table>
4. Implication of Local-Initiated Rehabilitation: A Missing Factor in Modern Development

Direct interaction between the builders and the users ensures a custom built house that would fulfill individual and social needs. Apart from the twelfth stilt house described previously, the significance of this local practice was also well demonstrated in most other rebuilt projects. Examples of the newly built houses are illustrated below.

4.1. The First Rebuilt House

Mr. Fan was the first villager started the reconstruction of his stilt house. He was allowed to rebuild his house in-situ with a front stage. Typically area of the front stage is limited to 45% of the house area. However, Mr. Fan used to own a small store selling homemade salted fish, he was granted exception to build a larger platform for processing salted fish.

4.2. The Tenth Rebuilt House

Mr. Cheung owns a boat and still practices fishery. Before the fire, he used to tie his boat underneath his neighborhood’s house where the water was deep enough for docking. Since his neighborhood’s house has not yet been rebuilt, he was allowed to extend an additional walkway from his front stage to the boat.

4.3. The Fourteenth Rebuilt House

Mr. Wong is a painter. Most of his paintings were destroyed in the 2000 fire. For his new house, he would like to have a different layout in order to create a more pleasant painting environment. Since the District Land Office only concerns the footprint of the recorded structure but not the spatial layout, he discussed with Mr. Cheung Hoi Chuen and come up with a new idea to open up a double volume in the center of the house as studio space. A skylight is installed for admitting daylight.

4.4. The Sixteenth Rebuilt House

Mr. Wong is a merchant and his family has already moved to Tuen Mun. He would like to explore new construction method for his new house. Firstly, he appointed a manufacturer from mainland China to build up the major wood framing in Lap joints and Mortise & Tenon joints. These wood members were shipped and re-assembled in Tai O. Instead of using traditional sheet metal siding for enclosure, Mr. Wong applied natural genuine stone lacquer as wall paint and lay with roof tiles. Finally, it looks like some vernacular houses in Zhejiang Province. This house is located at a dominant site which can be overlooked from Tai O Chung Bridge. It is just completed in February 2007.

5. Mobilizing Community Force in the Revitalization Process

Over the past seven years, only sixteen stilt houses have been rebuilt by the own effort of the villagers. The government has been playing a very passive role in the process. One of the reasons for the slow action taken by the government may be that the officials still haven’t decided how to categorize this community.

Tai O has long been officially regarded as a squatter sprawl. Unlike the indigenous residents living in the New Territories, Tai O villagers were registered for their residency but they have no true ownership of their properties. In the resident’s licenses, it states that the government has the right to evict villagers from their stilt houses upon three-month-notice in advance. As the government has been trying to demolish all the remaining squatter areas.
in Hong Kong in the past few years, government will need to identify Tai O as a non-squatter community before it can actively subsidize the reconstruction of the stilt houses.

To motivate the local-initiated reconstruction process, Government will need to take the following actions:

1. Officially declare the cultural significance of the settlement so the community can gain the confidence on their future.

2. Subsidy the reconstruction and facilitate the process by simplifying bureaucratic procedures.

In the ‘Recommended Outline Development Plan’ published by the HKSAR Planning Department, specific land uses for various parts of the TAI O village has been mentioned. The main objective of this plan seems to try to establish a good infrastructure framework that can encourage new economic form to develop in this traditional community, particularly tourism. However, most tourism development includes intensive new commercial activities such as shopping malls, hotels, casinos and restaurants. These large-scale developments are usually under the control of few private sectors that only interested in profit making. Benefits the local community gains from the development may be negligible.

Local-initiated cultural incidents have been emerging over the years, which can contribute to the community growth. Here are some examples.

1. Ms. Wong Lai King has been living in Tai O for over 40 years. She is one of the local residents who been actively involved in local preservation activities such as carrying out researches and organizing cultural exchange programs to foster future development in the community. In 2001, she wrote a book named ‘Tai O Love stories of the Fishing Village’. Recently, she opened a non-profit-making gallery called ‘Tai O Culture Workshop’.

2. Mr. Wong Chi Chuen is a painter who was born in Tai O. The vernacular settings of Tai O have been the main subject of his works. He owns an art studio in Tai O.

Many local residents run small catering and retailing business for visitors. Funding provided by the government to subsidies these cultural activities and local-based business will encourage economic growth in Tai O. The implementation strategy by HKIA proposed that a consultation group can be set up to coordinate the execution of base plan and reconstruction of stilt houses. It says that the operation model of this agent can be initiated
either through government or local activists. However, design and planning professionals such as planners and architects would be the most appropriate candidates for this agent. With their prime expertise, they can provide objective and fair advises to parties involved in the development process.

6. Anticipation of Contemporary Tourism

Dramatized traditional heritages gradually lose its attraction to visitors. More people now realized the significance of Eco-tourism. In an international conference held in 1992, many developed and developing countries unanimously agreed upon the importance of sustainable development which emphasizes the preservation of natural attributes and reinforcement of indigenous neighborhoods and traditional cultures.

In the past, Tai O settlement has gained its beauty through the process of evolution from one generation to another in response to the local context, without any intervention from design professionals or government officials. Currently, many proposed planning strategies are lead by political decisions, without a good understanding of the potential of the village. The community tie between the Tai O neighborhoods can be easily destroyed. In order to stay in line with the international consensus, it is now the time to advance Hong Kong Government’s policies to encourage the enthusiastic, well informed, and sustainable involvement of local residents in the revitalization process.

Acknowledgements

The fieldwork for this paper was made possible by the sincere cooperation of local residents, especially Mr. Cheung Hoi Chuen, Mr. Wong Chi Keung and Mr. Leung Sai Ngau, and the house owner Mr. Wong Kam Shui. The author wishes to thank the community of Tai O for their warm hospitality.

References

i Chung means stream, or small canal. Originally, three rows of stilt houses are formed along the south bank of the river, known as Tai Chung. In-between the rows are Chung. They called Yat, Yi and Sam; means number one, two and three respectively.

ii Wong Wai King: Tai O - Love stories of the Fishing Village, pp..20.

iii Wong Wai King: Tai O - Love stories of the Fishing Village, pp..139.

iv Galvanized tinplate was not available for the earliest vault-shaped stilt house. They were only covered by Palm leaf and Pine tree skin that wrapped with broken fishing net. Later on, palm leaf was replaced by fiber sheets.

v In the past, Chek Lap Kok was a quarry bay. Residents transplanted those pillars to Tai O by boats. Even he is already 75; Mr. Cheung Hoi Chuen is strong and healthy. He bore in Tai O and had worked as stilt house builder for more than 40 years. His sons and grandsons are all moved to Tuen Mun. None of them is trained as stilt house builder. Due to government control over stilt house development, no new stilt house has been built for the last 20 years. Meanwhile, Uncle Hoi Chuen had involved in refurbishment work.


Author

Gary W. K. YEUNG
garyyeung@editdesign.net
architecturelog.blogspot.com

Principal of EDIT Design Ltd.
Contributing Writer for Publication <空間之旅: 香港建築百年> (2005); Magazine <CITYLIFE> (2005-06); Hong Kong Economic Times <建築師之選> (since 2006).
Green Tour 2005 Japan

Thoughts & Reflections

Towards a Sustainable Future?

The need for Sustainability

Mankind is the biggest force for environmental disruption. Consumption of more energy & resources in the past century than in its entire previous history has resulted in exponentially increasing rates of change. If the world system continues to evolve with no significant changes, there may be a catastrophic change in the world we live in within another few decades. See Scenario 1.

It is possible to alter these growth trends and to establish a condition of ecological and economic stability that is sustainable far into the future. However, mankind must change its behaviour, primarily to use resources more efficiently (at least 10 times!) and significantly reduce pollution. There is hope that the trends in the Scenario 1 above can change to that in Scenario 10.

The Effects of Building on Sustainability

Buildings consume vast amounts of energy and natural resources resulting in environmental degradation and climate change. We, as architects and other building professionals, influence many design decisions that affect energy and resource use, therefore we are a big part of the problem! We also have abundant opportunities for saving resources and reducing waste by designing sustainable buildings that enhance environmental, social and economic aspects.

Our focus should be on designing buildings:
- with small enough energy loads that do not adversely affect the environment
- that contribute to social values and the community they are built in
- that produce a positive effect on economy or occupants

Sustainable Buildings in Japan

Examples of all types of buildings for work, home and leisure, all beautifully detailed and cost effective, are abundant. Here are only a few:

Yokohama International Port Terminal
Materials were carefully selected from sustainable sources such as the timber decking. The green roof reduced energy consumption and provided an appealing visual and tactile experience for the users. The innovative design and details provide an enjoyable place to stroll and meet with other members of the community.

Towards Hong Kong’s Sustainability?

In September 2005, a group of Architects, and other building professionals, embarked on a trip to Japan. Why? Many of the four participants are already the leaders in promoting sustainable building practice in Hong Kong. They understand the importance of sustainability for future generations, the role of buildings on sustainability and that architects and building professionals are empowered to make decisions that can significantly influence the sustainability of buildings. Perhaps they wish to learn more of sustainable building practices that can be applied to Hong Kong? Yes, but ultimately I believe the experience is to share this knowledge with others: building professionals and the general public. We have to work together as a community to take urgent, immediate and permanent actions toward sustainability. Let’s take inspiration from perhaps the first sustainability statement from over 2,000 years ago. “We must leave this city not less, but greater than it was left to us!” Let’s share our knowledge and work together to be part of the sustainability solution, not the problem.

Ms. Diane Kolaritsch, participant of GT 2005

Takenaka Corporation Tokyo Main Office
Natural lighting enhanced internal spaces through skylights and light wells reducing energy use. Waste cardboard was used for duct insulation thus reducing energy and waste. Communal breakout spaces were used to enhance teamwork and creativity thus increasing productivity.

Housing in Codan Shinonome
Pre-cast and off-site fabrication for balcony units reduced waste produced. Communal sky gardens and outdoors spaces enhanced the sense of community.
Tracing the thread in HKIA GT2005 Japan

Day 1, 8:00 a.m. 19-Sept-05

Amid the chill and daw in the first morning of GT2005, we arrived at the Lake Biwa Museum (1) an hour before its opening; hence got an extra moment to wander freely and were amazed by an ecological spectacle – the whole area from buildings to plants was all covered with cobwebs (a). Under the golden beams, they became delicate laces, embossed on which was a story long before history, at the age of myths——

“... a Lydian maiden, Arachne, who boasted that she was the best weaver ever existed, and so challenged the goddess Athena to compete with her. Arachne’s work was indeed better, and the goddess got so angry that she destroyed the girl’s tapestry, depicting the gods’ romances. In despair Arachne then hung herself, but Athena saved her by transforming the rope to a cobweb and turning Arachne into a spider, forever weaving masterpieces...”

When we got into the museum, it was soon found out that the web-covered skylight of the museum (b) actually opened another spectacular window to us:

“If and just if, that story was not yet over, the competition between the 2 ladies had in fact persisted throughout the millenniums, and that brave rebellious spirit still seized every opportunity to prove her ability over the goddess in Mt. Olympus; well, then, would it be possible that she was instrumental in Gottfried Semper’s early (during 1830-33) study of Acropolis, the complex dedicated to the Greek goddess; ‘inspiring’ him to challenge the authoritative Laugier’s primitive hut (m) with his provocative ‘discovery’ that weaving was the primordial form of architecture instead of timber construction, thus defying the primacy of the Doric Order which was exemplified by the Parthenon (the Temple of Athena) – a retaliation to her divine rival?”

Just before leaving the museum, this question was further perplexed as the Mistress of weaving was found waving her ‘hands’ outside an exhibition hall (c), as if proclaiming that it was her precise plan to show us in the GT2005 why she was eligible to reclaim the title as the ultimate Mistress of architecture—— and she would be an accompanying phantom in the following days——

Day 2, 10:00 a.m. 20-Sept-05

In the Great Expo of 1851, the Caribbean hut (d) was seen by Semper as an evidential support of his ‘four elements in architecture’, heralding his argument that weaving and wickerwork was the primordial architectural form (2). And in 2005, a weaving example was set up in Expo again, this time it was in Aichi where the ‘center piece’ was the Japan Pavilion Nagakute (e) (f), a mega bamboo textile of amorphousness. After 150 years, eventually, this then revolutionary argument is taken seriously, researched and realized – was the Mistress giggling?

Day 3, 3:00 p.m. 21-Sept-05

The one-day lodging in the world heritage of Gassho houses in Shirakawa-go village (i) (j) brought us a different experience of living, and most wondrously, the demonstration of how timber frame was bound by knots and roofed with rice straws (g) (h). Would it be possible that the Mistress had given Semper the same hint so that he came up, after subsequent studies in ethnography, with a conclusion that Knot was the oldest tectonic, cosmogonic symbol, and the very essence of architecture? (3)

---

1. Lake Biwa Museum
2. Caribbean Hut at Great Expo, 1851
4. Cobweb-covered skylight in Lake Biwa Museum
5. Spider’s web on plants outside Lake Biwa Museum
6. Banner of a ‘Spider Exhibition’ at children’s gallery, Lake Biwa Museum
7. Illustration of bound timber frame, Shirakawa-go heritage village
8. Rice straws, Shirakawa-go heritage village
9. Typical village houses, Shirakawa-go heritage village
and from history, advances in technology in early 20th C allowed architects to leverage Semper’s ideas of a textile surface as enclosing membrane into modernist’s ideas of “free-plan” and “free façade” (5) (6).

One just needs to take a little step further along this technical argument to another vantage to discover that architecture might owe the Mistress even more – since the (first) Industrial Revolution in 17th C commenced with innovations in the weaving machines, the Spinning-Jenny (p). Oops, was it possible that she was actually the woman behind the scene of that revolution?

Day 6, 9:30 p.m. 24-Sept-05
Semper argued that the “tapestry (hanging carpet) remained the true walls, the visible boundaries of space. The often solid walls behind them were necessary for reasons that had nothing to do with the creation of space; they were needed for security, for supporting a load, for their permanence, and so on.” And in the Ginza shop of Louis Vuitton (q), this remarkable argument was taken almost literally that the building was defined by “curtain” walls “embroidered” with giant Sierpinsky Carpet (fractal square).

Day 7, 5:30 p.m. 25-Sept-05
In a mood of pilgrimage, we approached the flagship store of another celebrated label – the Prada Epicenter (v) (w) in Shibuya-ku, Tokyo, targeting not the choice of the season (Genwand) but the architecture (Wand).

"... a theoretical reference, Semper’s archetypical explanation of the origin of the wall as a cloth that hangs between two poles, is brought upon very often by architectural authors to anchor the design attitude of H&M’s….however, the architects produced their most 3-d building to date, where their particular definition of “firmitas” as stability through complex multi-sensorial impressions is explored...”
This description by Pedro Pablo Arroyo Alba (7) on Prada Epicenter may however need to be reconsidered if read parallel with the architects’ sketches and models (r) (s), it is evident that the interior trunks (structures) were only developed

Similar view was shared by other architects: “it hinged on technical innovations in building construction to make a building wrap like cloth, and from history, advances in technology in early 20th C allowed architects to leverage Semper’s ideas of a textile surface as enclosing membrane into modernist’s ideas of “free-plan” and “free façade” (5) (6).

One just needs to take a little step further along this technical argument to another vantage to discover that architecture might owe the Mistress even more – since the (first) Industrial Revolution in 17th C commenced with innovations in the weaving machines, the Spinning-Jenny (p). Oops, was it possible that she was actually the woman behind the scene of that revolution?

Day 6, 9:30 p.m. 24-Sept-05
Semper argued that the “tapestry (hanging carpet) remained the true walls, the visible boundaries of space. The often solid walls behind them were necessary for reasons that had nothing to do with the creation of space; they were needed for security, for supporting a load, for their permanence, and so on.” And in the Ginza shop of Louis Vuitton (q), this remarkable argument was taken almost literally that the building was defined by “curtain” walls “embroidered” with giant Sierpinsky Carpet (fractal square).

Day 7, 5:30 p.m. 25-Sept-05
In a mood of pilgrimage, we approached the flagship store of another celebrated label – the Prada Epicenter (v) (w) in Shibuya-ku, Tokyo, targeting not the choice of the season (Genwand) but the architecture (Wand).

"... a theoretical reference, Semper’s archetypical explanation of the origin of the wall as a cloth that hangs between two poles, is brought upon very often by architectural authors to anchor the design attitude of H&M’s….however, the architects produced their most 3-d building to date, where their particular definition of “firmitas” as stability through complex multi-sensorial impressions is explored...”
This description by Pedro Pablo Arroyo Alba (7) on Prada Epicenter may however need to be reconsidered if read parallel with the architects’ sketches and models (r) (s), it is evident that the interior trunks (structures) were only developed
after the external skin which was always the emphasis by the architects. The intention became even clearer on a plastic model (6) which was later emerged as a more or less self-standing wickerworks of oblique grids (7).

Reflections

It was beyond expectation that the GT 2005 Japan which planned to see projects with different shades of “green” (8) was counterpointed with a Semperian, or so to speak, an Arachnic overtone. However, the 2 themes in a way really braid perfectly together and hint that we can trace back and learn from the Matriasar of weaving (and architecture). As Juhani Pallasmaa once stated, “... animal architecture teaches us that a proper way towards an ecologically sound human architecture, which is urgently called for today, is not through regression back to primitive forms of construction, but through extreme technological sophistication. But this architectural refinement needs to be ecologically grounded, not merely...” (9)

Perhaps, next time when you are feeling run out of ideas (say, for curtain wall or website design), don’t turn to reference books or magazines, just look up at the cornice, maybe your Muse is there...

Notes

(1) Lake Biwa is the largest inland water system in Japan. Stringent ecological control is needed to catch mosquitoes. Hence, some special species of spiders are exercised there and insecticides are forbidden.

(2) Gottfried Semper (November 20, 1803 – May 15, 1879) was a German architect, art critic and professor of architecture, who designed and built the Semper Opera in Dresden between 1838 and 1841. In 1849 he took part in the May Uprising in Dresden and was put on the government’s wanted list. Semper fled first to Zurich and later to London. Later he returned to Germany after the 1862 amnesty granted to the revolutionaries.

Semper wrote extensively about the origins of architecture, especially in his book The Four Elements of Architecture from 1851, and he was one of the major players of the controversial debates surrounding polythene-timber architecture of ancient Greece. Besides the Dresden Opera House and the Bayreuth Festspielhaus he designed works at any scale, from a baton for Richard Wagner to urban interventions like the re-design of the Ringstrasse in Vienna.

(3) K Frampton, Studies in Tectonic Culture – The Poetics of Construction in Nineteenth and Twentieth Century Architecture. In ethnology he (Semper) had strong impacts on Franz Boas and his school, as well as on the Chicago school of architecture (curtain wall). Gantner (1932) has described his influence on Le Corbusier (curtain wall). Mr. K Leung, Chairman of GT2005 Japan.

(4) El Corquis 76 of 1995. Semper’s model of primordial dwelling was referenced with a cultural transformation in which southern passive races are succeeded by northern nomadic tribes, and thus the aboriginal dwelling becoming modified according to climate and the racial origin of the nomads as they settled down. Deleuze also identify nomadic tendencies in late capitalism and the return to a kind of nomadic condition of populations, knowledge and operative systems. This nomadic situation did influence FOA in their Yokohama Terminal.


(6) Nold Genter, The Metabolism of Form in Antique Architecture


(8) Forward in tour handbook by Mr. M K Cheung, participant of GT2005


Mr. C.S. Lo, participant of GT2005

Timeless Architecture

Architecture frozen in time, so timeless......... bring back to life its social status, As travellers like us visit can’t help but admire its purpose.

Human hearts can turn agaless………………… as old friends and folks gather to appreciate timeless Architecture in pure joy, delight and pleasure.

Ms. Debbie Cheung, participant of GT 2005

Ideal in the village for farming

Details of the roof

Gasscho style house

Sketches by Mr. Tan Sing Yiu, participant of GT2005
Passive Green Measures

After visiting the pavilions played with various emerging sustainable elements in the Aichi World Exposition, we were brought to a public housing at Higataga in Gifu. Perfurcture on the fourth day of the tour. In the project, passive green design approach such as 'sensitive planning', 'modular design' and 'prefabrication construction' were applied in it. It was a rental housing project developed by the Gifu Prefectural Government. The Southern site was completed in 2000 but the northern site was still under construction.

The Master Plan of the Southern Site was designed by Arata Isozaki & Associates which coordinated 4 internationalupcoming female architects to design 4 blocks in a total number of 430 units. They are Keiko Takashashi, Elizabeth Diller, Christine Hawley and Kazuyo Sejima as shown on the pictures. All the residential blocks were almost in rectangular form comprised 9 storeys. Size of the units ranged from 55 sq. m. to 85 sq. m., most of them were arranged linearly and connected by a common corridor with the living rooms facing south. The block were built along the perimeter of a site enclosing the courtyard which was designed by another well known female landscape architect, Martha Schwartz.

It was not difficult to understand the using of standardized building components and prefabricated construction in this type of low-cost repetitive residential development. To achieve better quality control, more economical design, and shorter construction cycle. It was also considered to be a sustainable way for its lesser resource consumption and construction waste. However, it usually lead to monotonous buildings which lack their own identities.

Our group were delighted to see the effort and commitment of the above architects who had explored different design possibilities under the ‘standardized’ frame. Although they were assigned with similar programme, different concepts, features and detailing were applied in their blocks in order to create very different identities.

Takahashi Block among the four was the one that I liked most. Simplicity in its form without excessive decorations made it look smart. Perforated metal panels were checkered placed at the corridor in front of the colored wall characterized the north facades. The wave-like frozen glass partitions dividing the outdoor and the living units allowed light penetrate to the unit that echoed with the semi-circular precast slab which projected interesting shadow throughout the block internally and externally. In the projected balcony of the unit, you might see the zigzag disposition of the units forming another interesting pattern on the south elevation. The double volume living room and the flexible moving internal partition made the unit more spacious than it was.

All the accommodation of the units of Diller Blocks were built on the same floor. The higher efficiency of such arrangement might be the main reason why made the block the most popular one for end-users. The filled perforated metal panels enclosing the balcony and common corridor created a dynamic elevation as well as spacious utilities area for the residents.

The amazing lift directory found at the G/F of the Sejima Block was a good picture showing the complexity of various sizes and layouts of the flats that fitted into that uniformly spaced structural grids. The architect was trying to create so many different types of unit in one building in order to break the monotonous structures. For conceptual side, she stated that the ideal home should not be the same for everybody, so there were various layouts. The unit we visited having a stair in front of the window was quite odd to all of us. The block was punctuated randomly to create a few outdoor utilities area next to the units and to improve cross ventilation. The hanging out fire stairs from the north facade was another dramatic feature that the group was so excited when we walked down to the courtyard.

Green measures were not implemented only in the design and the construction activities, but also including the provision of re-usable slippers for visitors. All the ‘greenies’ were very cooperative in keeping their own slippers during our site visit.

After the visit, a few questions kept coming up to my mind. Why did they appoint female architects to design the blocks in the project? Was it supposed to be an experimental feminist social housing? However, traditional feminist design visions also were not overwhelming in this project, for example, greenery in the whole development seemed be much lesser than I expected, the size of the kitchen should be bigger, color and materials used like the concrete, perforated metal panels applied was quite ‘cool’.

For the scale of the project, the number of units was just comparable to two 40-storey Hong Kong residential towers only. It was admirable to have such a degree of variety and complexity in the design and flat mix in that type of low-cost housing. Comparing with our public housing, we are compromising too much for the excuse of time constraint, regulation compliance and cost considerations?

Another concept of mixing units of families with different sizes and different structures in one development in order to create ‘cross-over’ between generations and walk of life was stimulating. All the sustainable housing projects that we visited in the tour revealed to us that ‘sustainability’ is not only how we re-shape our living to get a balance between our grad and scarce resources, but also how we live with understandings, respect and sufficient considerations to others.

At last, just want to thank all the participants in the tour, their passion in architecture and love for the world really made this journey so cheerful, memorable and inspiring.

Mr. Jane Au Young, participant of G72005
It was an honour to be one of the members of the 4th HKIA Green Tour. Before the tour, I was nervous because I was a student joining a highly architecturally focused tour with some senior architects. It was definitely an inspiring tour and certainly widened my horizons. I visited many places seeing the natural environment, architecture and art works. Although I learnt much from what I perceived by sight, listening to the architect’s casual chat was of greater significance. Following the Green Tour I realise that I would like to pursue a career in architecture.

Looking at the pictures inside books is nothing compared to experiencing the architectural space of a particular place. In this tour, we visited a number of projects that had a class “B” (excellent) and a class “A” grading, assessed under the CASBEE (national authorized green labeling system in Japan). Many spectacular buildings such as Roppongi Hills Mori Tower, New Yokochama Port Terminal, Izu Garden, etc are all fascinating. The one which impressed me the most would be the Miho Museum by I.M. Pei. It is a combination of both Chinese and Japanese architectural landscape design, to link an experience of place with a view or mountain beyond. This site had a certain pull on me as soon as I walked in. Feeling the spirit of the land and finding out how the building responds to that spirit was the most exciting aspect. Out of respect for nature, the architect built 85% of the museum below ground. The silhouette of the roof has its origins in traditional Japanese architecture, which harmonises beautifullly with the surrounding landscape. The building’s contemporary glass structure allows a light-filled interior space – the signature of Pei’s architecture.

During the tour I also had a chance to visit Tadao Ando’s buildings and it was my first time to see and touch the famous fair-faced concrete. These two buildings are the Nagaragawa Convention Center and the Jinguumae-yonchoume Redevolopment Project which were still under construction. I saw many buildings using fair-faced concrete finish in Japan, but none of them had the same quality as Ando’s one. Tadao Ando is famous for the geometric simplicity of his designs and the texture of fair-faced concrete; these two buildings are no exception. The fair-faced concrete finishes were seen all over, both inside and outside. The form of the Nagaragawa Convention Center is composed of several square volumes and an egg shape object interlocks at high level. The egg shape volume is actually the international conference room, which has a wall that can fully open up, borrowing the natural beauty of the Nagara River and Mt. Kinka. It has a unique form featuring steps leading to the rooftop garden and four glass towers which let sunlight flow into Citizena Gallery.

Although I didn’t spend much time in the site of the Jinguumae-yonchoume Redevelopment Project, I found out the secret behind the exposed concrete. The process of finishing the concrete exposed is different from the normal formwork. Builders need to be careful from the time the architectural form boards come into the site. One single scratch on the form board and it is likely that the surface of the concrete will not end up as smooth as it is intended to. Special coating is also required to apply on the concrete form board. The whole process is similar to making a mould for a sculpture. The level of accuracy and craftsmanship for building construction in Japan is absolutely stunning.

All the architectural details, which appeared in front of me, were like a piece of art. This tour allowed me to visit both modern and traditional buildings as well as a dusty construction site. Although my journey to Japan is completed, my learning journey in pursuing architectural knowledge still has a long way to go. Finally, I would like to say thank you to everyone for teaching me so much during the tour. There are so many things that I have learnt from them, their architectural knowledge as well as their laid back style. This Green Tour has encouraged me and provided me with an opportunity to further develop my academic potential and social skills.

Bosco Chu, student helper of GT2005

Green Tour 2005 with HKIA

I was priviledged to be part of the 2005 HKIA Green Tour. In the arrangement of the tour, I was initially quite pessimistic about going to the site. These places were not touristy, and I was not sure how much I would be able to get out of it. However, the tour proved to be very rewarding.

The tour started in Tokyo with a visit to the Miho Museum, which is a very unique building. It is located in a green valley and surrounded by natural landscapes. The museum is designed to look like a giant egg, and the surrounding landscape is designed to enhance the building’s appearance. The museum’s design is inspired by the traditional Japanese architectural style, and it is also a symbol of the beauty of nature.

The next day, we visited the Nagara Convention Center, which is one of the most impressive buildings I have ever seen. The building is designed to look like a giant egg, and it is surrounded by nature. The building is also designed to be energy efficient, and it uses solar panels to generate electricity.

The next day, we visited the Jinguumae-yonchoume Redevelopment Project, which is currently under construction. The building is designed to be sustainable, and it uses a lot of natural materials. The building is also designed to be energy efficient, and it uses solar panels to generate electricity.

The final day of the tour was spent in Osaka, where we visited the Next 21 Osaka Gas Experimental Housing and the Kitagata Apartment Buildings. These buildings are designed to be sustainable, and they use a lot of natural materials. The buildings are also designed to be energy efficient, and they use solar panels to generate electricity.

Overall, the Green Tour was a very rewarding experience. I was able to learn a lot about sustainable architecture, and I was able to see some of the most impressive buildings in the world. I would highly recommend this tour to anyone who is interested in sustainable architecture.
An article by Prof Hon Patrick S S Lau, Legislative Councillor (Architectural, Surveying and Planning Functional Constituency) and HKIA Past President, broadcast in ‘Letter to Hong Kong’ on RTHK Radio 3

Although the recent row over the demolition of Star Ferry Pier, along with its clock tower, is one of the most important issues in Hong Kong’s planning history. This is because it has not only helped to bring public focus upon some intrinsic problems in the authorities’ planning policy, but also raised public awareness over planning, cultural heritage and civic identity issues to an surprisingly high level.

To begin with, I must declare that I’m a member of the Antiquities Advisory Board. Since I wasn’t a member in March 2000, I have to look carefully back at the minutes of the Board’s meeting back then, when it was indicated that Star Ferry Pier was proposed to be demolished, there weren’t many specific discussions on the future of the Pier structure per se.

Unfortunately, no clear-cut decision was reached which firmly approved that the Pier should be demolished – the discussion paper and minutes recorded only that the Board didn’t raise any objection. It was against this ambiguous background that some members of the public felt they were not sufficiently consulted on the demolition of the Pier.

Be that as it may, merely considering a structure’s preservation individually is not adequate to us. The focus should be on the holistic planning of the entire vicinity, taking into account the role played not only by Star Ferry Pier, but also by Edinburgh Place, the City Hall Complex and Queen’s Pier. I’ve to say that according to heritage preservation principles, considerations should be on the comprehensive planning (or ‘area’) approach, rather than the individual building (or ‘point’) approach. But one outdated rationale behind the authorities’ planning strategy remains: the urban design and layout of a planning project is dominated by the building of infrastructure facilities like roads, motorways or tunnels. To a great extent, this rationale was indeed instrumental in building up Hong Kong in the old days; but for the already well-developed Hong Kong of today, it’s simply wrong.

The Government must review this practice and the relevant laws, allowing principal planning considerations like cultural heritage or environmental protection to take precedence over infrastructure facility construction where appropriate.

The clash in Star Ferry Pier between protestors and the authorities is a very significant indicator that has brought into light the Government’s failure to keep in touch with the changing trends in public opinion. In the old days, Hong Kong was an immigrant city where people from different areas of the region converged. As many of them originally regarded Hong Kong only as a temporary abode where they could find shelter and make quick money during turbulent times, they didn’t have much sentimental attachment to the predominantly foreign and colonial environment of Hong Kong. That’s why when Hong Kong was on the road to raising its competitiveness and developing into a modern and financial metropolis, both the authorities and the public did not have adequate objection to pulling down some of the best historical buildings in Hong Kong.

That’s why when Hong Kong was on the road to raising its competitiveness and developing into a modern and financial metropolis, both the authorities and the public did not have adequate objection to pulling down some of the best historical buildings in Hong Kong, including the old Central Post Office, the Kwoloon-Canton Railway Station and the old Hong Kong Club building.

But times have changed nowadays. To second or third generation residents who were born and bred locally, Hong Kong is their permanent home where they feel a strong sense of belonging, particularly since the Handover to China in 1997. Moreover, after decades of improvement in our socio-economic conditions, people became better educated and more civic minded. Unfortunately, the authorities failed to grasp this change and they continued to adopt the ‘development over preservation’ approach in their planning strategy. Seeing this gap between the authorities’ mental and the public’s expectation, I can understand why many of the protestors at Star Ferry Pier were reacting to the authorities’ actions rather emotionally.

I’m glad to hear that the Government is now committed to collecting public opinion by initiating a new round of consultations. But I must urge the Government to review its consultation method whenever heritage preservation and urban planning is involved. One problem in the existing method is best reflected by a question raised by a young student in a public forum I attended last December: he simply had no idea of how to find the proper channel to express his views in any consultation exercise. Another problem is that it’s very difficult for the untrained eyes to visualise and understand what a two-dimensional outline zoning plan is actually trying to convey.

That’s why, time and again I have been advocating the idea of finding an easily accessible venue to set up a better planning exhibition hall where relevant three-dimensional models of proposed urban development schemes are displayed during different consultation periods. There could also be different kinds of three-dimensional installation there to facilitate public participation in visualising their views. This will greatly enhance the transparency and efficiency of official consultations, without serving the purpose of educating members of the public on urban planning designs and concepts at the same time. I think one of the ideal venues for this exhibition hall is Queen’s Pier. By making appropriate conversion of Queen’s Pier, it can become a local landmark that is a historical structure on its own right.

Besides the planning exhibition hall, part of the present spaces in the City Hall can be converted to accommodate the Hong Kong Architecture Centre, which aims at taking an interactive approach to raising the community’s awareness of our architectural environment. This, I believe, will become an outstanding example of sound adaptive reuse of a heritage site.

We should remember that due to the lack of space, Hong Kong has evolved into a metropolis of high rise buildings, and that’s indeed one of the most distinctive features of our built environment. Many visitors from other places in the world actually find this feature fascinating and regard it as a symbol of Hong Kong’s achievement – otherwise, Dubai wouldn’t have applied to develop into a ‘Hong Kong of the Middle East’. Yet, thanks to the presence of some low-rise historical buildings in the midst of these modern towers, we could enjoy a more balanced and multifarious urban landscape provided by these breathing open spaces. I dare not imagine how terrible it would be if the Lego building and Statue Square area is redeveloped into an overpowering commercial skyscraper complex.

In view of this, the authorities should set down a set of sound and clearly defined heritage preservation policies and standards immediately, to which we could all refer and by which we could decrease conflicts caused by different understanding of ambiguous heritage values. I also think that revitalising historical sites and buildings by means of adaptive reuse is a more sensible and forward-looking strategy to preserve our cultural heritage. A good way of doing that is by providing more freedom and support to facilitate small local businesses and organisations of good quality to thrive in these venues spontaneously, thereby building up their local characteristics, which are attractive even to local residents, not to mention tourists. Apart from helping to develop authentic local culture and improving local economy, this strategy can also foster a stronger sense of belonging.

For the preservation of historical sites within private properties, we should pay attention to respecting the redevelopment rights of the owners. We must consider proper mechanism of compensation, such as exchange of land or allowing development next to historical buildings and co-exist with them.

It just happens that today is the start of spring (立春) in the Chinese calendar, which marks the new beginning of this year’s seasonal cycle. It’s in this hopeful and forward-looking spirit that I sincerely wish that we could all join hands to find new ways to improve the quality of our urban environment, strengthen the harmony of society and elevate citizens’ civic pride and heritage consciousness.

Patrick Lau
Prof Hon Patrick Lau is a Legislative Councillor, a Fellow Member of HKIA, an Honorary University Fellow, Honorary Professor and former Head of the Department of Architecture at the University of Hong Kong.
Professional Green Building Council (PGBC):
Towards Its First Five Green Years

PGBC is a non-profit making research and education institute to promote a better sustainable built environment through professional involvement. It now comprises 5 institutional members, as Hong Kong Institute of Planners (HKIP) also joined in 2006. The chairmanship is nominated on a rotational basis for sharing among the professional institutes. In the first term, The Honorable Professor Patrick S S Lau from HKIA served as the founding chairman of PGBC until end of 2004. The second term in 2005-6 was chaired by Mr Kenneth J K Chan from HKIE. The current chairman is Ir Reuben P K Chu from HKIE. The underlying spirit is to nurture a collaborative attitude among the professional institutes in supporting the objectives of PGBC. The Council comprises members and co-opted members from the 5 professional institutes.

Under the Council, there are 4 functional boards, namely:
- Board of Internal Affairs (BIA): To coordinate internal matters, including newsletters.
- Board of Public Affairs (BPA): To deal with local, Mainland and International linkages.
- Board of Education & Research (BER): To organize seminars and education/research programme.
- Board of Sustainability (BOS): To deal with green building design and construction standards.

PGBC has organized various events related to green buildings, ranging from seminars, symposia and awards in Hong Kong, joint projects in Mainland China, and to regional and global initiatives. Key examples include the following:

1. Technical Seminars, Forums & Green Building Symposia

Technical Seminars & Expert Forums

BER has recently organized technical seminars on “Green Roof – Idea and Practice” presented by Prof C Y Jim from HKU Department of Geography in 2006 and “Life Cycle Energy Analysis of Building Construction” presented by Ir S K Ho from EDM Energy Efficiency Office in early 2007. In collaboration with other institutions/ universities, PGBC has also organized expert forums such as the forum on “Urban Climate Mapping (UCMap) & CFD for Urban Wind Studies” in 2006.

GIS 2004: Green Building Labelling

Besides the seminars on various technical subjects, PGBC has organized the Green Building Symposium in HK on a biannual basis. The first one titled “Symposium on Green Building Labelling” was held at the Hong Kong Convention and Exhibition Centre in 2004, with a view to consolidating the way forward for a green building labelling scheme in Hong Kong. The underlying objective of a green building labelling system was to promote high performance, healthy and sustainable buildings.

This symposium, the first of its kind in Hong Kong, was jointly organized by PGBC and HKB-BIM Association, and co-organized by the Buildings Department HK/SSD and the Environmental Protection Department HK/SSD. Both overseas speakers, from Canada, Japan and Korea, and local speakers were invited. It addressed both the global and regional overview of green building labelling issues while tapping into the local expertise and knowledge of environmental and sustainable design.

GIS 2006: Urban Climate + Urban Greenery

The second one was “Green Building Symposium 2006: Urban Climate + Urban Greenery”, held in the scenic setting of the headquarters of the Hong Kong Observatory (HKO) and CUHK Department of Architecture. Keynote speeches were delivered by renowned experts from Canada, Germany, Japan, Singapore and the UK. Representatives of professional institutes and relevant government departments also participated in discussions at the forums.

The focus of the morning session was on urban climate, while the afternoon session was more on urban greenery.

The Director of HKO, Mr CY Lam, set the scene with local meteorological data showing dramatic changes in HK’s climate especially over the past decades – the rate of increase in temperature is rising sharply especially urban areas, there is evident decrease in wind speed in the urban areas, and rise in the frequency of invisibility of the sky. In this opening remark, Mr Lam concluded saying:

“Buildings are meant to benefit people, but we have seen in the meteorological records that buildings have collectively modified the urban climate in a way unfeasible to healthy living. It is high time for us to re-think the fundamentals about how urban living should look like.”

2. Green Building Awards

GBA 2006

The first Green Building Award (“GBA”) 2006 organized by PGBC, officially came to an end with winners announced in the award ceremony on 30 June 2006. The objective of GBA 2006 was to provide recognition to buildings and planning/research projects with outstanding features and contributions to sustainability and the environment and also to encourage industry players to further adopt sustainable planning, design, construction and maintenance of buildings.

The award scheme was divided into four categories:
- New Buildings (completed on or after 1 January 2001)
- Existing Buildings
- Newly Renovated Buildings (on or after 1 January 2001)
- Research and Planning Studies

GBA 2006 received a total of 55 nominations, among which 23 were nominated for New Buildings Category, 18 for Existing Buildings Category, 4 for Newly Renovated Buildings Category and 10 for Research and Planning Studies Category. 30 projects were short-listed as finalists.

In the new buildings category, the Grand Award was shared by “MTI Disneyland Resort Line - Sunny Bay Station” and “Hong Kong Wetland Park Phase 2”. The New Headquarters for the Electrical & Mechanical Services Department” received the Grand Award in the category of newly renovated buildings, while the “Resilience Study for Establishment of Air Ventilation Assessment System” (a research project) and “Towards a Sustainable Community: FIVE FOUNDING INSTITUTIONAL MEMBERS: HKIA, HKIE, HKIL, HKIP and HKIS

While HKIA celebrated its 50th Anniversary in 2005, PGBC was just about five years old. PGBC was formally founded in late 2002, in 2006, PGBC was just about five years old. While HKIA celebrated its 50th Anniversary in 2005, PGBC was just about five years old.
Redevelopment of Upper Nga Tsoi Kuk Estate Phase 2 & 3 (a planning project) were both honoured the Grand Award in the research and planning studies category.

The GBA is intended to be a biennial event, for promoting sustainable building practice and high building performance from a life-cycle perspective in the unique context of HK.

Property Development

PGBC has also been invited to jointly organize various related awards. Examples include the “Best Landscape Slope Awards” in 2003-4 and the first “Best Landscape Award for Private Property Development” in 2004. These awards promote the greening of slopes, buildings and/or infrastructure projects in Hong Kong.

3. Mainland-HK Symposium

HK Shanghai Symposium for Sustainable Buildings 2004

The first “HK Shanghai Symposium for Sustainable Buildings” was held in Shanghai in 2004, for promoting professional services in HK and technology transfer. The 2-day event was organized as a joint venture of PGBC and the Shanghai Research Institute of Building Sciences (SRIBS) where expert speakers from the professional disciplines of architects, engineers, landscape architects and surveyors, along with keynote speakers from various related bodies.

4. Sustainable Built Projects in Mainland

A Bridge 2 Far: A Dream Comes True 2005

The first B2F project, completed in 2005, was led by Professor Edward Y Y Ng from CUHK Department of Architecture and supported by a no. of universities and institutions including PGBC. In July 2005, Sir David Akers-Jones, the patron of “A Bridge 2 Far, A Dream Comes True” officiated the inauguration ceremony of “Wu Zhi Qiao” in Maosi Village, Gansu. The project has gained generous support from the media and has won several major architectural awards, including honours from HKIA, AIA and RIBA.

B2FII 2007

Greatly encouraged by the success, the team has decided to extend the benevolence of the project by planning another bridge in a Tibetan village in Sichuan. It is scheduled to complete in mid-2007 demonstrating the idea of “bridging”. The project aims at improving the livelihood of the villagers in the remote area, and more importantly, it provides a channel for HK’s younger generation to better understand to our motherland, China, and the opportunity to help others with their own hands. PGBC is honoured to continue being one of the supporters to this meaningful “bridging“ venture.

5. Sustainable Building Regional & Global Conferences

SB05 Tokyo

PGBC maintains its close linkage with regional and international organizations on promoting sustainable buildings, such as Green Building Council Australia (GBCA), Korean Green Building Council (KGBC), International Initiative on Sustainable Built Environment (iiSBE) and World Green Building Council (WGBC). In 2005, in collaboration with government departments, PGBC organized a HK delegation to present and exhibit in the World Conference on Sustainable Buildings (SB05) in Tokyo. It was an important international occasion for updating the know-how on green building labelling, design and technology, policy and education.

SB07 HK & SB08 Melbourne

In late 2007, HK will organize the regional SB conference. This is the first time for HK to host a conference in the SB series, in which the SB98 World Conference in Melbourne will be the highlight. PGBC will continue to lead a delegation to participate in the SB98, a key theme of which is to accelerate market transformation towards wider adoption of sustainable building design and practise across the globe.

FIFTH YEAR & BEYOND: The Green Building Challenge

The gap towards sustainability is recognized to be wide and deep. Global Footprint Network (GFN) and WWF’s Living Planet Report 2006 shows that by 2050 humanity will need 2.6 Earths to sustain our activities, and the footprint of China will exceed that of the USA. The GBA is intended to be a biennial event, for promoting sustainable building practice and high building performance from a life-cycle perspective in the unique context of HK.

Sustainable Building

The GBA aims to be an international event, for promoting sustainable building practice and high building performance from a life-cycle perspective in the unique context of the GBA. Key themes of the GBA include sustainable design and practice, education and training, research and development, technology transfer, and peer networking and exchange. The GBA is intended to be a biennial event, for promoting sustainable building practice and high building performance from a life-cycle perspective in the unique context of the GBA.

FIFTH YEAR & BEYOND: The Green Building Challenge

The gap towards sustainability is recognized to be wide and deep. Global Footprint Network (GFN) and WWF’s Living Planet Report 2006 shows that by 2050 humanity will need 2.6 Earths to sustain our activities, and the footprint of China will exceed that of the USA. The GBA is intended to be a biennial event, for promoting sustainable building practice and high building performance from a life-cycle perspective in the unique context of the GBA.

The GBA aims to be an international event, for promoting sustainable building practice and high building performance from a life-cycle perspective in the unique context of the GBA. Key themes of the GBA include sustainable design and practice, education and training, research and development, technology transfer, and peer networking and exchange. The GBA is intended to be a biennial event, for promoting sustainable building practice and high building performance from a life-cycle perspective in the unique context of the GBA.
will demand twice as much as our planet can supply but that we don’t have to follow this path. According to Dr. Wackernagel of GFN: “Humanity is living off its ecological credit card. While this can be done for a short while, overshoot ultimately leads to liquidation of the planet’s ecological assets, and the depletion of resources, such as the forests, oceans and agricultural land upon which our economy depends.”

In the US, for instance, the American Institute of Architects (AIA) has recently established their “Sustainability Task Group” to recommend policies to the AIA Board on the overall direction of sustainability. Efforts have centered on the AIA “2030 Challenge” - a position statement that calls for the immediate energy reduction of all new and renovated buildings to half the national average for that building type, with increased reductions of 10% every 5 years so that all buildings designed by the year 2030 will be carbon-neutral (meaning that they will use no fossil fuel energy).

Wong Kam Sing, HKIA
Graduated from the HKU Department of Architecture in the 1980s, KS practiced as an architect in KNW Architects and Engineers Ltd. and then Anthony Ng Architects Ltd. In-between, he furthered his advanced studies (Master of Advanced Studies in Architecture) in the Environmental Research Group, UBC School of Architecture, Canada. He is currently an Associate Director, Ronald Lu & Partners (Hong Kong) Ltd., and serves as Council Member and Chairman, Board of Local Affairs in HKIA. He was also the founding Chairman of the HKIA Committee on Environment and Sustainable Development, and is now Vice chair man and Council Member of the Professional Green Building Council (PGBC), Hong Kong.
保留皇后碼頭之討論，正考驗香港社會在現今規劃發展過程中，如何能更深層次體現尊重歷史文物及優化都市空間之遠期可持續發展思維，同時能為平衡發展的需要。

自今年初，政府安排了共三次與專業團體之正式會議，分別在一月卅一日，三月十九日及三月廿三日。會議過程中，讓各方代表加深了解相關之技術考慮及限制。然而，對一些關鍵考量，尤其是相關之地鐵規劃走線，仍尚有合乎安全標準之可變空間，令皇后碼頭原址保留技術上可行，我們仍尚待政府清晰交待詳情，方可再深入探討。

學會一直倡議之主要基調，是尊重及維護皇后碼頭之原址，基於歷史及都市設計之因由。學會採取務實而平衡之態度，提出以下兩個重點方向：

一、古物諮詢委員會應及早清晰訂下時間表，對皇后碼頭之文物建築評級作出定案，給社會大眾在這個關鍵時刻一個應有的定位，不應拖延。
二、政府應以尊重皇后碼頭原址為主要基調及政策，配以合適之都市設計帶出具歷史意義之公共空間；在路面的P2路線走線應北移，而皇后碼頭現有之上蓋結構，政府應及早聯同文物建築專家，展開對原址保育之不同方案作專業之技術分析及評估其可行性。

政府一方面表示原址保留碼頭會對填海時間表及開支造成影響，但如何保留碼頭已討論超過四個月，政府與公眾仍未達成共識，公眾及專業團體至今仍未獲得全面的技術資料以供討論。學會憂慮，以目前之討論進度，將令填海工程延誤。學會祈望與政府對上述方向盡早達成共識，減少對填海工程之影響；更重要的是，共同創造尊重本地歷史及優質都市生活之公共空間，與市民共享，以能真正締造香港成為國際大都會。我們期望政府拿出更積極真誠的行動，勿拖延事件朝正軌而順步前行。

香港建築師學會
二零零七年三月廿六日
香港建築中心是一個為普罗大眾為服務對象的慈善機構，藉著建立一個讓本地建築與普羅大眾互動接觸的介面，鼓勵公眾從不同層面欣賞建築，增加市民對建築文化及環境的認識和了解。讓建築文化成為通識教育之中不可或缺的一部份。

建築是反映城市文化的重要媒介之一，不同時期的建築見證社會核心價值的發展，同時也反映社會在不同時代的面貌。建築不會隨我們語境文化改變，現身處其中不同文化、產業建築業界與市民群眾，共同建立美好的都市，締造我們的家園。

Hong Kong Architecture Centre is a charity institution that aims at creating new forms of interaction between public and the local architecture. An enhanced appreciation of the buildings around us from various aspects can help cultivate a deeper understanding of the art of architecture, the relevant cultural background, and also, the environment in which the buildings are found. Architecture is one of the main forms of expression of the local culture: buildings from different generations reflect the changing core values of a community and represent the various stages of social development. Such unique qualities have made architecture the perfect tool to trace our cultural origin and identity.

Through a joint effort between the architecture profession and the public, we can build a better city, and enjoy better quality of life.

世界各地的建築中心，在其他國際城市如美國倫敦、美國芝加哥、加拿大蒙特婁及澳洲悉尼等，都成為了市民主客遊客為服務對象的建築中心，實在為大家一起提供旅遊及城市設計的空間。建築中心亦使不同建築業界的朋友，能夠進一步了解市民對建築賞識的價值，及建築對社區的認同感。

Architecture Centres Around the World: Architecture centres can be found in London, Chicago, Montreal, Sydney and many other world class cities. They are established to serve both the communities and visitors. Apart from the provision of information on the cited architectural heritage and development, these centres have also become a link between the city and its people. Such venues play a vital role in educating the public and bringing their appreciation of good architecture and urban environment to a new level.

熱切期盼您的支持！
We need your Support!

香港建築中心因應市民的需要而成立，故此誠邀您的支持和參與，以協力建築中心的理想得以實現。您可到

The Hong Kong Architecture Centre

便成為建築之友並可享受以下優惠：

- 以友邦身份參觀該中心之展覽
- 以友邦身份享用該中心之活動
- 以友邦身份享有建築中心網站之部分服務

建築之友
 FRIENDS OF ARCHITECTURE

建築中心的網站www.archicentre.hk及會員計劃，成為普羅大眾與建築中心互動聯繫的平台。

建築中心的網站www.archicentre.hk及會員計劃，成為普羅大眾與建築中心互動聯繫的平台。

建築中心的網站

建築中心的網站www.archicentre.hk及會員計劃，成為普羅大眾與建築中心互動聯繫的平台。

建築中心的網站www.archicentre.hk及會員計劃，成為普羅大眾與建築中心互動聯繫的平台。