

Recreate the cultural life in Hong Kong

How does the living venue contribute to achieving social sustainability?

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Master Thesis SS22

Master Thesis

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Sustainability X Community

How does non-invasive architecture contribute to individual, communal, and societal sustainability?

Abstract

In Hong Kong, where efficiency is paramount, concrete or steel should account for 99% of all materials used. Concrete and steel construction have numerous advantages, not the least of which is their ability to support structures hundreds of meters tall.

Unfortunately, when the majority of new construction is made of industrial materials like reinforced concrete and steel, the regional landscape appears fractured, making it difficult to see the cumulative context and innovations in relation to cultural context. Therefore, when considering the construction of a relatively small structure, are there any other material alternatives?

Apart from cultural transmission and connection, the importance of natural materials cannot be ignored in light of sustainability and environmental protection concerns. The majority of Hong Kong residents are unaware that earth bricks, clay, and bamboo construction are sometimes superior.

The thesis report will discuss the use of indigenous natural materials, their appropriate modern processing, and re-purposing them in order to infuse our living environment with familiar and innovative elements. Through a variety of project types and scales, the project hopes to engage more users in this type of warm construction, allowing them to physically feel the building and connect with our culture and place.

We who were not born and raised in rural areas and who grew up eating vegetables wrapped in cling film will be able to rethink our relationship with culture, nature, and identity through the use of natural materials in a city that has lost touch with its roots.

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Introduction

Hong Kong is a city characterized by a diversity of architectural styles, and its architectural history can be divided into three distinct eras: the Chinese Traditional Period, the British architecture Periods, and the Contemporary architecture Periods. Even during British colonialism, the government attempted to preserve diverse cultures. For example, the British government's policy in the New Territories was to maintain the status quo as much as possible in order to preserve buildings with traditional Chinese cultural values.

Regrettably, Hong Kong has evolved from a diverse range of buildings to a concrete jungle, or even more so, to a skyscraper with a glass curtain wall and an insistence on high rise buildings, as a result of rapid economic development and urbanization in the 1970s.

Because skyscrapers have become an integral part of Hong Kong's cityscape, the majority of the population has a diminished understanding of traditional architecture. This change is detrimental to a city's development, and Hong Kong's urban landscape has become unrecognizable. The new generation is only distant from and unfamiliar with Hong Kong's history. It is difficult for them to develop their own cultural identity and that of Hong Kong when they live in a city devoid of history, cultural content, and historical significance.

Hence, the project core idea is to investigate how to improve the social problems caused by the unbalanced planning of new towns in the New Territories through brownfield redevelopment and the cultural transmission.

In addition to the general direction of the master layout plan, I hope that the use of space and materials in the buildings will make traditional culture more accessible to more people. For those of us who reside in urban areas, the most common instance of traditional architectural culture is the bamboo scaffolding used for building maintenance. In Hong Kong, bamboo scaffolding is pervasive but frequently goes unnoticed by locals. Therefore, the potential application of bamboo in our daily lives and structures could serve as a starting point for discussion of the concept.

More importantly, the project allows us to **rethink and explore the relationship between human, nature, and culture while deeply involved in a monster concrete forest.**

Before beginning the study for my thesis, the chapter 1 and 2 would introduce the core concept of my preliminary study. In addition, there would be an updated version of the Farm-Park planning since I received feedback from various parties.

Chapter 3 would then discuss cultural identity from the perspective of the government and the locals. From this point, it is easier to determine the future building types and functions. This chapter will also discuss the role of materials in the development of society and cultural identity, as well as the connection between cultural transmission and identity.

In Chapter 4, is about the material analysis of bamboo and blue brick. Since these two materials are crucial to both design projects, they would be discussed in a single chapter. To elaborate on their cultural significance in the traditional sense. And beyond cultural considerations, how do they positively affect today's society.

Finally, chapters 5 and 6 discuss building projects on two scales. In addition to a new planning for brownfield sites, the buildings approach would primarily address the thesis question of how traditional and local architecture contribute to the redevelopment of cultural identity lost due to rapid urbanization.

Chapter 1

Analysis of Preliminary Study

How to improve the social sustainability of new town in Hong Kong?



fig.1 Aerial View of Tin Shui Wai, 2016

1.1 Project Introduction

The Preliminary Study's main goal is to investigate how brownfield sites can be developed to address issues caused by unbalanced and rigid new town planning. It explores how brownfield sites can be revitalized to improve social sustainability and solve social issues.

According to research, the government's current policy on brownfield sites is to develop them mainly into residential areas, focusing on solving the housing problem while ignoring the social issues caused by the original New Town planning.

Therefore, the development of brownfield sites should be diversified to enhance a healthier and more sustainable society for Hong Kong. In addition to living conditions, the psychological conditions of the citizen should be considered.

Hence, the first residential-only new town in Hong Kong - Tin Shui Wai was selected as the focus of my preliminary research.

This new town was chosen as a symbol of the failure of new town planning. This failure is visible on several levels. It began by breaking up the historical ties that gave this place its identity. Second, it appears to be out of place in its surroundings, creating an isolated town situation. Third, the monolithic urban planning of this new town has resulted in a variety of social issues such as discrimination at various levels. This failure can be seen in what has been termed "The City of Sadness."

"I reside in this renowned and indifferent Tin Shui Wai"

says a character in the film "The Siege."



fig.2 Film stills from "The Siege" (CAICHANG INTERNATIONAL, INC., 2011)

1.2 Project Inspiration and Focus Aspects

Despite its small population of 300,000, the new town has the highest number of new immigrants from the mainland, unemployed, low-income poor, single-parent families, elderly people living alone, and youth problems in Hong Kong (他山之石, 2020).

As a result of the situation in Tin Shui Wai, I've been thinking about the following aspects of brownfield development:

1. How to re-establish the link between the location and its history so that people can reclaim their culture and identity and reintegrate into Hong Kong as a whole.
2. How to improve the living conditions of residents in order to reduce social problems
3. How to improve the Tin Shui Wai neighborhood's relationships with neighboring districts in order to break the town's isolation.

Following the Tin Shui Wai site analysis, three target groups will focus on the brownfield development design,

1. Middle-aged housewives who will spend a large amount of time in the town.
2. The elderly, especially those who worked as fish farmers in the original Tin Shui Wai village, who represent the village's history.
3. Low-income groups face a variety of social issues, including violence, suicide, and other issues.

"Revitalizing a brownfield site as a public space using a system that is both society- and self-sustainable, and promoting the cultural experience and history of the surrounding context"

1.3 Design Approach

The brownfield site in Long Tin Road is selected based on an analysis of various factors. Not only is it the largest and most comprehensive site around Tin Shui Wai, but it is also the intersection of Tin Shui Wai and neighboring districts.

The project's vision is to build a system of economic, community, and social cohesion. The brownfield would be converted into a Farm-Park, complete with various agricultural activities and a public space to promote more human interaction. Furthermore, the project has four objectives that should be met on different design scales.

1. Agriculture and related activities that enhance the value of Tin Shui Wai residents.

It can assist low-income individuals in regaining a sense of community and contributing to society.

2. Being the intersection point of that district
Allow residents to interact with one another and collaborate on the development of their own neighborhood.

3. Inform people about food and farming
Farm to table education to promote an understanding of indigenous agriculture, a healthy nutritional lifestyle, and the culture that results, as well as the impact of agriculture and diet on the ecological environment.

4. Cultural transmission through traditional festival activities
Cultural preservation and raising public awareness of Tin Shui Wai's changing history are critical for avoiding historical flaws.

Chapter 2

Brownfield Regeneration

Be the starting point for resolving Tin Shui Wai's design problem and reestablish connections between various groups through agriculture and related education.

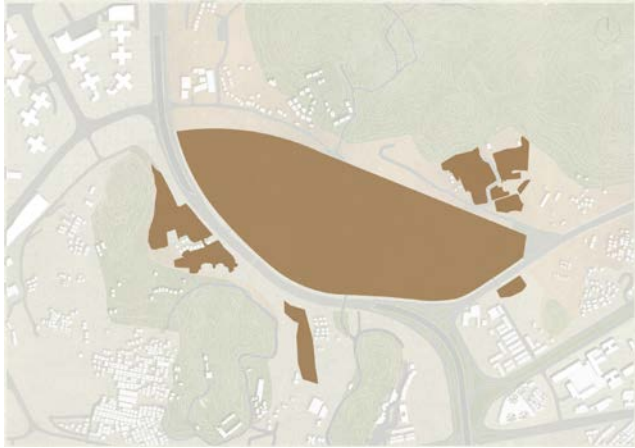
2.1 Introduction

The contexts adjacent to the brownfield site on Long Tin Road are fruitful. There is an environment dominated by nature, cultures both ancient and modern, and dense networks of neighborhood relationships. As a result, adjusting the brownfield so that it is integrated with its surroundings by those essential elements is made much simpler. Therefore, the primary obstacle that needs to be overcome for this project is figuring out how to offer residents of Tin Shui Wai more opportunities on a variety of different levels. To encourage the people who live in Tin Shui Wai to work on developing their own neighborhood, and engage in conversation with the people who live in the surrounding areas.

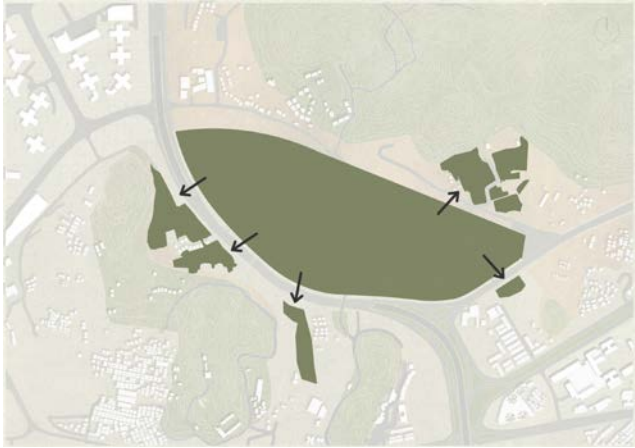
To summarize the findings of the preliminary study, the most fundamental issue with the planning of Tin Shui Wai is a dearth of opportunities and alternatives. Therefore, the design strategy that is being applied to this brownfield regeneration is providing the option for living, the opportunity for working, and the opportunity for interaction.

After reviewing the preliminary study, the design area could be expanded to include neighboring areas. By connecting brownfield sites of varying sizes, a truly interconnected community can be created. And maximize the concept of regenerating brownfield sites in the design to achieve social sustainability.

2.2
Design Development



1. Potential Brownfield areas next to Tin Shui Wai



3. Extend the Farm Park concept to fractured brownfield sites which are closer to residential zones



2. Select the most complete and large brownfield as the starting point for the Farm Park



4. The Farm Park will serve as a connector for the surrounding green space, transforming it into a complete green space for the neighborhood

fig.3 Process of Farm-Park areas development





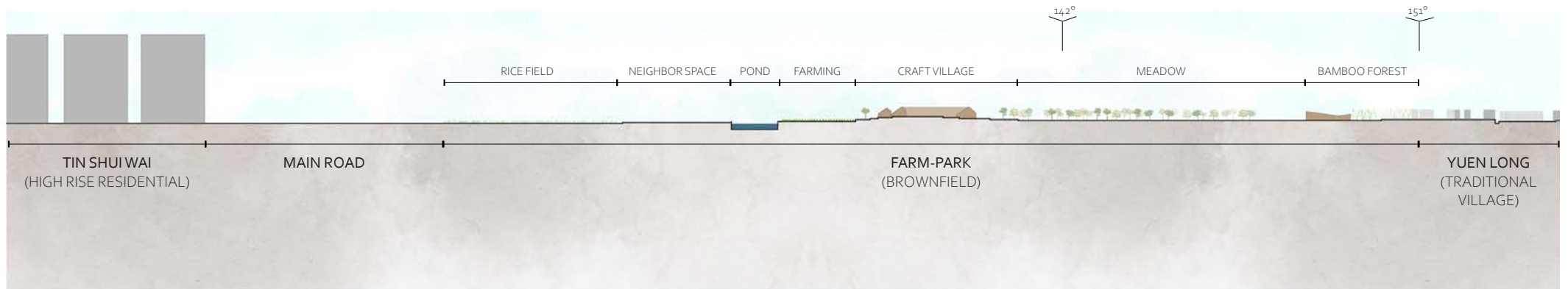
From the site sections that show how the brownfield site regeneration could serve as the link between Tin Shui Wai and its environs.

In Section A, the Farm-Park (Long Tin Road Brownfield Site) serves as a link between the two mountains, forming a green corridor throughout the entire district.

In Section B, the Farm-Park serves as a place of work and recreation to encourage Tin Shui Wai residents to leave the town to go there, thereby increasing their opportunities to connect with others. Being able to overcome an isolating circumstance.



Site Section A



Site Section B

fig.5 Site sections



fig.6 Zoning and Entrance for Tin Shui Wai and Ping Shan residents

The surrounding contents determine the function of zoning. Linked to the primary objectives of each district's site design.

To begin, design the farming and leisure areas in accordance with site contexts such as the pedestrian path and main car road. The leisure area would be adjacent to the pedestrian route to maximize visitor convenience and encourage more people to visit the site. At the same time, the leisure section is set back from the main road, providing a more tranquil setting.



fig.7 Zoning and Entrance for hikers, Visitors and Yuen Long residents



fig.8 Walking distance diagram

**2.3
Site Usage Distribution**



fig.9 Farm-Park zoning plan

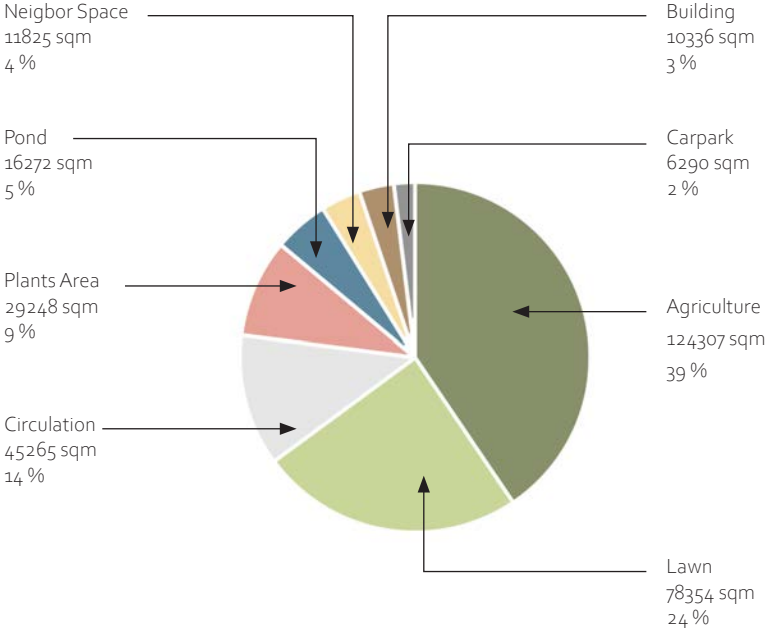


fig. 10 Farm-Park percentage function chart



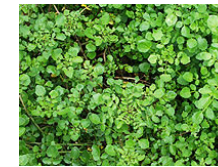
Fruit Zone
(12986 sqm)
- Litchi tree
- Lemon tree
- Longan tree

Rice Zone
(14091 sqm)



Vegetable Zone
(14949 sqm)

- Watercress
- Water Spinach
- Zucchini
- Tomato
- Bitter gourd
- Eggplant



Vegetable Zone
(55594 sqm)
- Kale
- Lettuce
- Choy Sum
- Amaranth
- Sweet Potato
- Bok Choy

Rental Fields
(32904 sqm)



fig.11 Diagram of crops for agriculture zone

Trees



Tabebuia Rosea



Ficus Microcarpa



Rosy Trumpet Tree



Saucer Magnolia



Flower Zone
(3835 sqm)
- Sunflower
- Lily

Flower zone
(18277 sqm)

- Cosmos bipinnatus
- Gladiolus
- Asclepias curassavica
- Gardenia jasminoides

Bamboo Zone
(7136 sqm)



fig.12 Diagram of Plants for Landscape

2.4 Conclusion

Tin Shui Wai's brownfield regeneration solution focuses on agriculture , related activities and recreational space. Residents of Tin Shui Wai are interested in agriculture, according to my research on community organizations in the town. To build a community, groups can promote the concept of caring through farming and other related activities. In my opinion, "People-oriented" should be the future of public space design.

From where I stand, agriculture provides much more than just crops. It teaches the Give and Take concept. Especially in a metropolitan area like Hong Kong, everything revolves around speed and results. If we can slow down a bit and engage in activities such as farming, it should be of great assistance in building a loving community. In contrast to the present, people are no longer concerned with others and only care about themselves.

However, it is difficult to demonstrate how certain aspects of brownfield regeneration, such as cultural transmission and cultural identity, function in urban planning or site scheme planning. Therefore, these aspects would focus mainly on the building design that to show it on human scale.

Chapter 3

The Losing Cultural Identity

The reason for defining the function and purpose of two major buildings

It is only when there is a sense of identity and belonging to the place that the person truly achieves social integration" (Cheng, 2020).



fig.13 Gathering activities during Preserve Queen's Pier Campaign (Cheung, 2007)

3.1 How Does The Culture Come?

In Hong Kong, there is always a schism between the government and the locals when it comes to "identity" policies.

In terms of cultural identity, the Hong Kong government promotes a "holistic national identity." It was emphasized that the Grand Narrative has a unified history, as well as a set of economic development-driven approaches and planning powers for urban development. This type of economic development-driven urban planning has resulted in the destruction of many historic buildings and traditional neighborhoods, which is the polar opposite of what the community desires.

The local community emphasizes a more inclusive and open-minded Small Narrative approach to folk life stories and social history, as well as a more community-based approach to urban development that preserves the community's history and culture and is founded on the residents' life network and participation.

This schism in opinion has heightened social tensions and conflicts, as evidenced by the community's organization of conservation campaigns opposing the government's approach. The number of local conservation movements in Hong Kong has grown significantly over the last decade. These movements emphasize two key concepts: "local, history, and culture" on the one hand, and "community, public, and participation" on the other [1]. Words like "my city," "our place," and "roots" appear frequently in these movements, which can be interpreted as a call to build an identity.

As a result, citizens believe that culture emerges from their everyday lives. If we only keep the outlook but not the spirit, we are not preserving their cultural identity. However, removing the culture's spirit and leaving only the "outlook" will dilute or erode the culture as a result of time warping its meaning in this Economic development-driven city.



fig.14 Wan Chai Blue House (LWK+partners, n.d.)

3.2 Why Grassroots Life Is The Factor of Local Culture?

In the case of the Blue House Conservation Campaign, for instance, the government's initial plan was to evict all the residents and transform the Blue House into a museum of history. However, following the protests and struggles of the locals, the government finally agreed to allow the community museum, which was founded on its own initiative, to open in the Blue House and host exhibitions on various aspects of community life (Hong Kong House of Stories, n.d.). Besides, the residents of Wan Chai came to serve as cultural guides and discuss the history of the Blue House and Wan Chai, as well as their personal experiences living in the past.

In this case, we found that the government's initial response to this conflict was to turn the entire neighborhood into a tourist destination, without considering how to preserve the community's original way of life and social network. As Henri Lefebvre said "the government's conservation and redevelopment efforts are generally destructive because they deny natural and historical differences, as well as physical, age, gender, and ethnic ones." (Hsia, 1994)

Government conservation policies do not consider the cultural diversity of the entire community. **But residents place a higher value on the particulars of their community's historical significance than does the government because these particulars are present in their memories and daily interactions.**

In the minds of the locals, the Blue House is a link between the neighborhood, the social network of the street, and the course of human history. In this example, the residents' heritage of their ancestors' spirit and the significance they place on neighborhood relationships, which are in many ways unique to them, are indicated. If the building without the roots of their daily life, it means nothing to the local. **Because sense of belonging is the most important aspect of cultural identity for residents.**

3-3 Cultural Identity and Architecture

As previously stated, the majority of culture is derived from daily life, particularly among the grassroots. As a result, when discussing how to build cultural identity, the items or space are mostly associated with the grassroots.

In sociology and cultural studies, there is consensus that cultural identity is the psychosocial process through which individuals develop a sense of belonging, maintain and innovate their own culture within the cultural group to which they belong and its field. According to the book *Beyond Culture* by American cross-cultural scholar Edward Hall, the process of cultural exchange and identity is frequently associated with a particular context. And precisely places of memory are considered to be a manifestation of cultural identity (People's Daily, 2012).

Local places of memory are more universal, diverse, and connected to social life and culture than large-scale historical sites. According to American sociologist Michel Yin-article Boer's *From Collective Memory to Collective Imagination*, these places of memory are what give the town's community its cultural identity and diversity. Developing emotional attachments and value identities through a multilayered network of group memories.

The urban environment is dominated by high-rise structures and is devoid of identity-forming elements. The absence of local cultural traditions allows historical and cultural resources to become a component of urbanites' identities. In such a living environment, buildings and cultural relics with a long history serve as historical symbols for Hong Kong residents who lack local culture upon which to construct their identities(UGE News, 2021).

Aside from historical buildings, the materials used to build them and the patterns of life they bring to the built space are what most connect people to their historical and cultural identity. We can use architectural space to express cultural forms and aesthetic symbols that, on a symbolic level, convey the mutual understanding and communication of human society(Yan, 2022).

A heritage approach is achieved in modern architecture by using spaces and materials that differ from those found in typical buildings. The regeneration and heritage approach in 'urban renewal,' as well as the historic environment regeneration strategy in the coexistence of the old and the new(Chang, 2017).

3.4 Conclusion

From the perspective of citizens, what is most important is not the holistic national identity formed by general discourse, but the cultural identity formed by their own life experience and history, as expressed through concrete life and participation. They want to enter this identity while also retaining an identity that has developed over time as a result of their lives and culture. The goal of various conservation movements is to develop a bottom-up cultural identity that is community-based but diverse, based on the history and culture of the community.

From my point of view, architecture serves as both an icon of culture and a functional space for cultural activities. Culture identity is the first step toward achieving culture and community sustainability; the architecture outlook could directly link people's senses to their culture activities on the inside, which could be a way of achieving culture sustainability; both of them cannot be overlooked if sustainability is the goal.

According to my preliminary study on the development of Tin Shui Wai, there are two major issues to be addressed in terms of the identity situation. To begin, as a result of extreme urbanization, some of the original Tin Shui Wai villagers are losing their identity. For example, loss of residence, living circle/space.

The new town's current development has erased all traces of their identity, leaving them without a sense of belonging or roots. Furthermore, it makes it more difficult for people of different generations to develop a sense of belonging and cultural connection in that district, making integration into the new era more difficult.

Second, they have doubts about their self-identity as a result of severe urbanization, and Tin Shui Wai is a relatively isolated area. In the news, we frequently see family tragedies, such as the killing of family members due to financial pressure, which will exacerbate the district's lack of understanding and discrimination against disadvantaged groups. Simultaneously, this creates a vicious circle in which residents become more suspicious of themselves, resulting in even more social tragedies.

This major issue, cultural identity, has led me to decide on the focus of my thesis project: how to help people build or recover their identity in their local community. It is not just about replicating the architecture, but also about passing on the culture of the region (UGE News, 2021b). Having cultural identity is the start of a healthy community.



fig.15 Hong Kong traditional street market in Temple Street (The old Hong Kong, n.d.)

As previously stated, one of the most important factors for achieving social sustainability is "culture." A successful social sustainability community must include two key components:

1. History of local culture
2. Public participation in the community

According to my research, rapid urbanization has had a negative impact on culture and self-identity. Culture and self-identity, on the other hand, are how we form our local cultural history. So, from this angle, there is an answer for the functions of the following building design topics.

A location that allows for local activities, particularly from the grassroots, should be prioritized. Because many daily activities or memories originate there. And those memories contribute to the formation of our own community culture. And, in general, these types of spaces are more diverse.

As a result, a local market for residents, particularly the grassroots in Tin Shui Wai, is necessary to help them collect memories with neighbors and form the community. Second, previous history cannot be ignored. How do we create a space that connects different generations to history, which is also required for this socially sustainable project.

My solution for this project is the Living Market and Craft Village. Through these two projects, Tin Shui Wai's culture can be sustained by sense of belonging, maintaining it, and innovating.

Chapter 4

Traditional Material Study

Explaining why Blue Brick & Bamboo were chosen as the main building materials for the building design



fig.16 Traditional building - Yi Tai Study Hall in New Territory, HK (Leung, 2010)

4.1 The Value in Traditional Culture

The majority of traditional building materials are sourced locally, tying the structures to their location. The use of traditional building materials in new construction can achieve a harmonious relationship between humans and nature, while the combination of such materials can fully reflect the building's overall national cultural identity and perpetuate and promote traditional culture.

There are two guidelines for choosing material for a brief conclusion:

1. Directly connect culture to what people see
A direct connection can strengthen the ability of different generations to share the same sense of tradition that unites them.

2. Local material for strengthening the bond between residents and place

In addition to considering the material's sustainability, it is essential to consider how the material can be used to strengthen the community's sense of belonging and cohesion. This means that the material could serve as the community's source of strength until it can develop its own cultural value.

As a result, I have emphasized blue bricks and bamboo, the primary elements of traditional Hong Kong architecture, in the design and construction of the buildings. Ping Shan still contains a number of traditional blue-brick structures. Using this material not only creates a cultural connection for the entire district, but it is also capable of bringing the existing history to the brownfield site and the old Tin Shui Wai villagers. Besides, undoubtedly, bamboo is one of the most prevalent natural materials in Hong Kong. It exists in our daily lives on various scales. Especially in some conventionally temporary structures, such as temporary festival theater. Typically, these structures are constructed for community activities.



fig.17 Blue Brick (古建家园 , 2019)

4.2 Blue Brick

The Application in Architecture (Hong Kong)

Both blue and red bricks are made from the same raw materials and processes, which include crushed clay, shale, and other materials that are heated to high temperatures. However, blue brick is more intricately manufactured than red bricks, so why would Chinese traditional architecture select it?

In addition to history, traditional philosophy and culture also contribute to the cultural significance of bricks. According to the yin and yang theory's five elements, blue represents water and red represents fire. In Chinese thought, water represents the highest virtues. According to Laozi's Tao Te Ching, "the greatest virtue is like water: it benefits many without taking credit for the good done."

Additionally, according to the theory that the five elements are mutually supportive, water opposes fire, so blue bricks are commonly preferred for house construction. Moreover, the appearance and properties of blue bricks, which are stable, dignified, nurturing, and culturally rich, are consistent with traditional Chinese Confucianism, which explains why the majority of traditional buildings were constructed with blue bricks as opposed to red bricks(九元古建 , 2017).

China is the only country in the world where blue bricks are utilized. Therefore, the blue brick offered an immediate connection to traditional culture.



fig.18 Bamboo Scaffolding for building repairment (hkulifestyle, 2014)

4.3 Bamboo

The Application in Architecture (Hong Kong)

People in Hong Kong are familiar with bamboo due to the abundance of bamboo products, such as chopsticks, bowls, chairs, sofas, tables, and even small houses.

During the 1960s and 1970s, when Hong Kong's economy boomed, and in response to the development of construction, well-structured and organized bamboo scaffolds emerged, and construction sites are where bamboo is most commonly found in this concrete jungle. Consequently, it is gaining cultural significance in Hong Kong (當代中國, 2021).

In Hong Kong, unlike the rest of Southeast Asia, bamboo is utilized for temporary structures. For example, a temporary work platform is constructed to allow workers to work at height during building construction, renovation, and repair. The second is the use of bamboo to construct traditional festival theaters.

In addition to being an architectural culture, bamboo scaffolding is also an architectural discipline. The bamboo scaffold can prompt contemporary architects to consider not only the building's form, but also its environmental impact. For instance, building materials such as bamboo scaffolding, wooden panels, zinc, and iron can be recycled in the case of the Bamboo Scaffold. And the process of erecting them is quick, time-efficient, and damage- and noise-free. All of which are very deserving of today's architects.

Hong Kong bamboo architecture is generally based on a mesh structure that is then adapted to specific environments or requirements. And the most important thing for me is that bamboo scaffolding reflects the efficiency and adaptability of Hong Kong people.



fig.19 Bamboo Scaffolding joints method (HKFTU Study Centre, 2021)



fig.20 Internal space of the Hong Kong Heritage Theatre (Shutterstock, n.d.)

4.4 Conclusion

When I first began working on the design projects, I decided almost immediately to use bamboo and blue brick as the main construction materials. As stated previously, these materials are locally sourced, allowing people to establish a direct connection with traditional culture. Therefore, these two materials are capable of creating a historical atmosphere for people.

This material approach could make it easier for the project's target groups - middle-aged housewife and the elderly - to feel at home in a space with a familiar vibe.

In addition to allowing different generations to regain their presence and sense of self-identity, this visual icon helps the younger generation comprehend the vanishing local way of life.

Regarding the bamboo portion of the project, I would also like to apply the Hong Kong construction method rather than the Southeast Asian way. And by developing this construction technique, we will establish our own culture.

Chapter 5

Building Design - Living Market

Building as a medium to assist residents in developing their own cultural identity and community sustainability



fig. 21 Design project brief diagram

5.1 Introduction

This year's project is centered on the concept of "sustainability." And different aspects of the project would show it in different ways. Not only is the project concerned with material sustainability, but it is also concerned with cultural transmission and, finally, with social sustainability.

In terms of urban planning, the Farm-Park strives to maintain residents' quality of life and provide ample opportunities.

In addition, two building projects would be underway in the Farm-Park. One of these is the Living Market, which is primarily a market for grassroots people to socialize, share, and purchase daily necessities. It is a symbol of everyday life at the grassroots level and the key to neighborhood sustainability.

The second is Craft Village, which demonstrates how traditional cultures, such as traditional festivals, can be preserved for future generations while also being passed down from one generation to the next.

In general, the design directions of these two building projects are based on the main goals of restoring "grassroots life" and "traditional festive customs."

5.2 Inspiration

The market is a rural community product, and what happens at a public market is more than just a sale. It is an informal economy that responds to grassroots needs such as access to public space, access to community members, and an emotional sense of connect with local identity (Lam, 2021).

A marketplace does not have a universal definition, but it typically involves the use of local space for economic activities, the expansion of employment opportunities, and the introduction of more diverse and affordable consumption options to the local population. It also quickly and simply reflects the needs of the community.

In fact, Hong Kong was planned with a specific space in mind, with an emphasis on economic efficiency and practicality. It is also a haven for "landless buildings," with large shopping malls and residential buildings springing up all over the place. They are ascending in altitude without regard for their relationships with the surrounding communities.



fig.22 Traditional street farmer market (onebite, 2022)

This is proof that Hong Kong has reached "total urbanization." And a city devoid of its history, devoid of itself, is hollow and pale (Choi, 2005).

Because it would benefit all of the target groups in different ways, the market was chosen as one of the main building's functions:

First, consider a low-income family. The value of the market is the right of the public to earn a living and the opportunity to break the consortium's monopoly on economic life.

Second, an elderly housewife. Marketplace will provide them with numerous opportunities, including the ability to consume, work, and even start their own business by growing crops in the farm park.

Third, the elderly. Market places provide them with a familiar vibe from their youth, allowing them to fit in and meet new people with whom they can communicate and share. It encourages people to grow and reclaim control of their lives.

A market can also help residents feel more connected to their community. Dense space, a lively environment, and residents participating in the same activity can all aid in the acquisition of Geo-knowledge and interpersonal relationships through interaction (The Hong Kong Council of Social Service, 2015).



fig.23 Grassroots living condition (Moblief1, 2020)

5-3 Insight

Living Market is an attempt to relocate the traditional street market to an indoor space. There is no exact description of the street market that resembles a bazaar. It just a place where street vendors or stallholders gather to sell their wares to the general public.

The market originated in the rural community, where farmers were required to sell their harvests and purchase crops they could not produce. Through the consumption process, a dense space, a lively atmosphere, and joint participation, we hope to encourage residents to engage in the same activities and build local knowledge and interpersonal relationships through interaction.

In addition, the Living Market concept aims to create a semi-open structure with a roof but no closed walls. Even market spaces are constructed with concrete nowadays, regardless of the type of building. In addition, the majority of us already reside in small, crowded spaces. Therefore, why does a neighboring space still require an enclosed layout? The Farm-Park possesses a variety of green elements, so the design would consider how to incorporate nature into the buildings.



fig. 24 Living Market - location plan

5.4 Design Approach

Design Concept -

The beauty of the bamboo itself is expressed through the variation of space, and the verticality of the interior space and the hidden gaps express the natural feeling of the bamboo forest. The space is enhanced by a marketplace function, which allows interaction between people, the environment, and the building.

Furthermore, the Living Market's circulation is about bamboo education. Inform people about how fresh bamboo becomes construction elements.

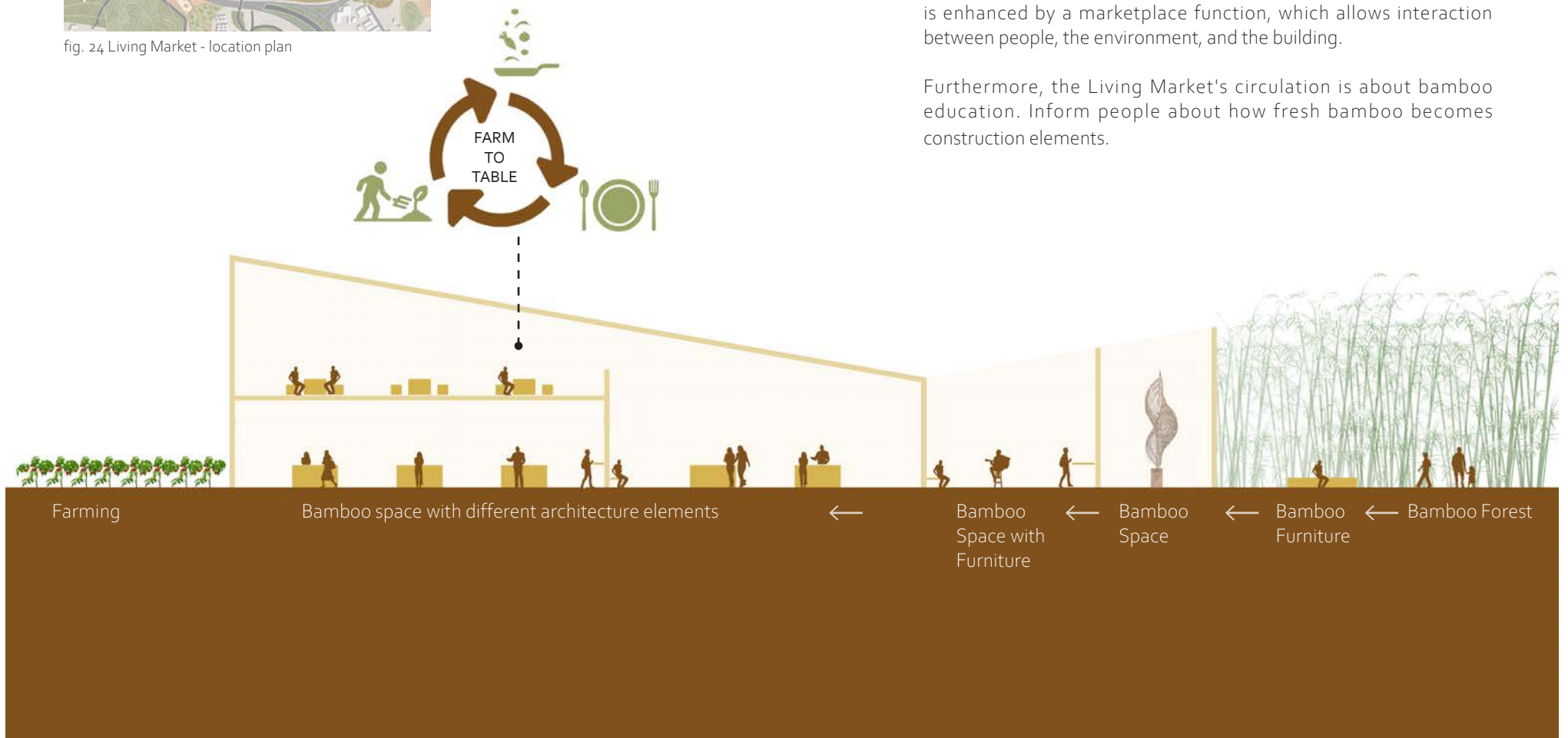
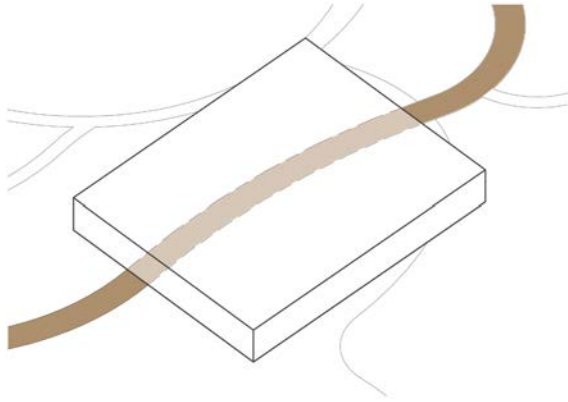
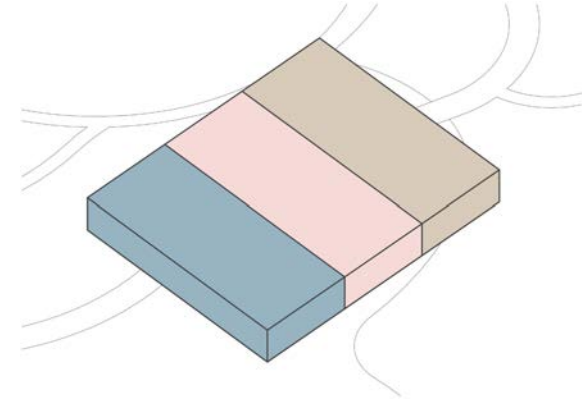


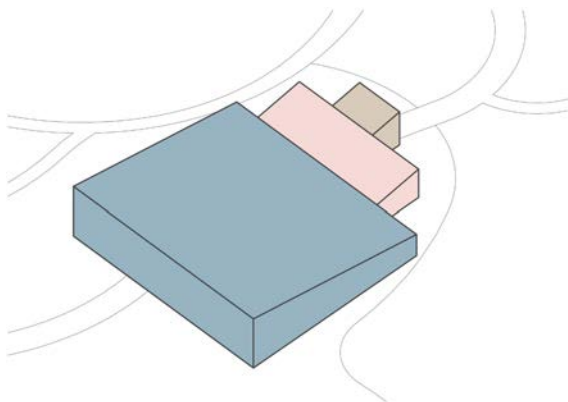
fig. 25 Living Market - concept diagram



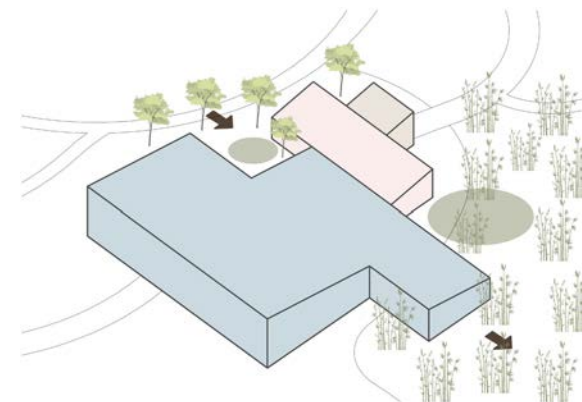
1. Place the building on the entrance road to encourage more people to visit the market



2. Separate the building into three zones that correspond to its bamboo education function

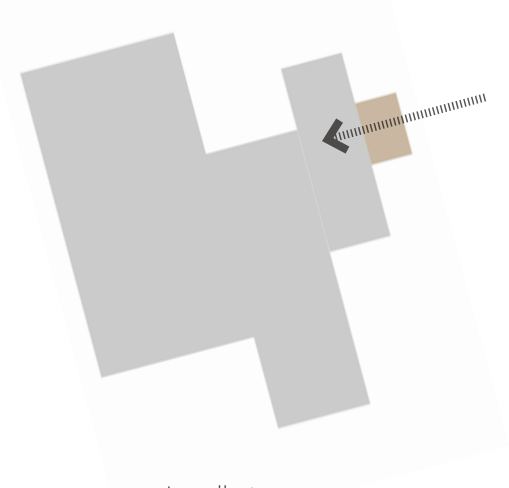
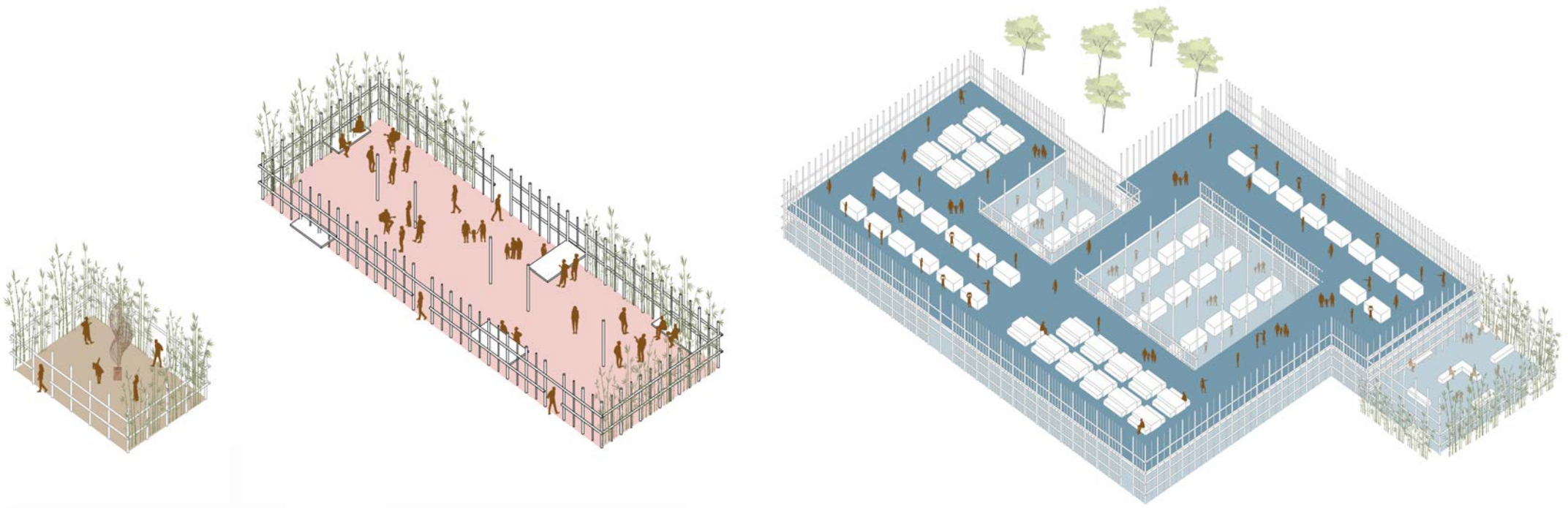


3. Adjust the zone sizes according to the functions



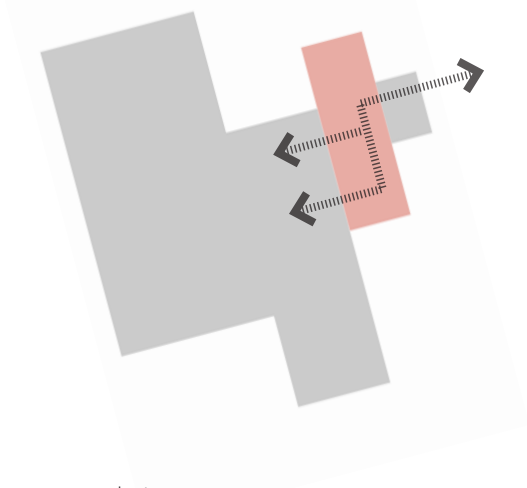
4. Modify the form to integrate with the surrounding natural environment, and design a courtyard to strengthen the connection with nature

fig. 26 Living Market - Form development diagram



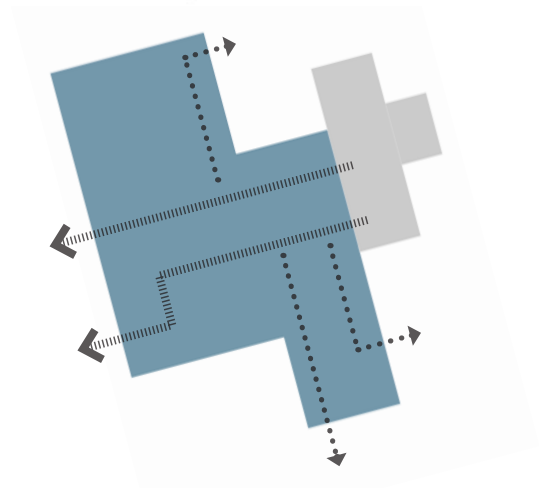
1. Installation

Use the bamboo to create space



2. Leisure

Using bamboo sticks to construct furniture on the structure to demonstrate bamboo's viability

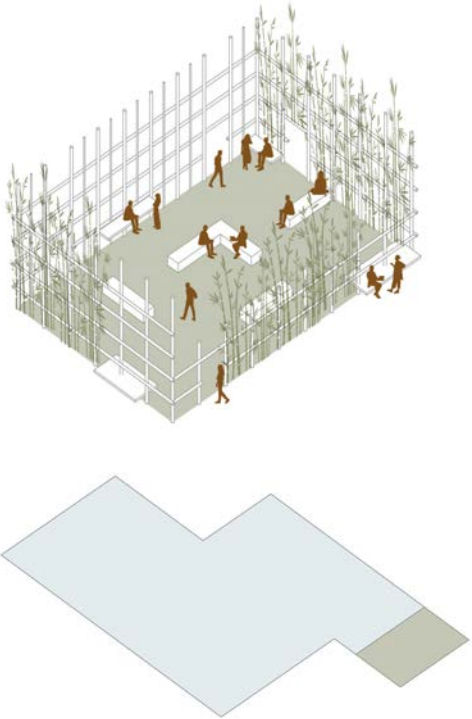


3. Market

The design of a multilayered bamboo structure to illustrate how traditional bamboo construction applies into our daily lives

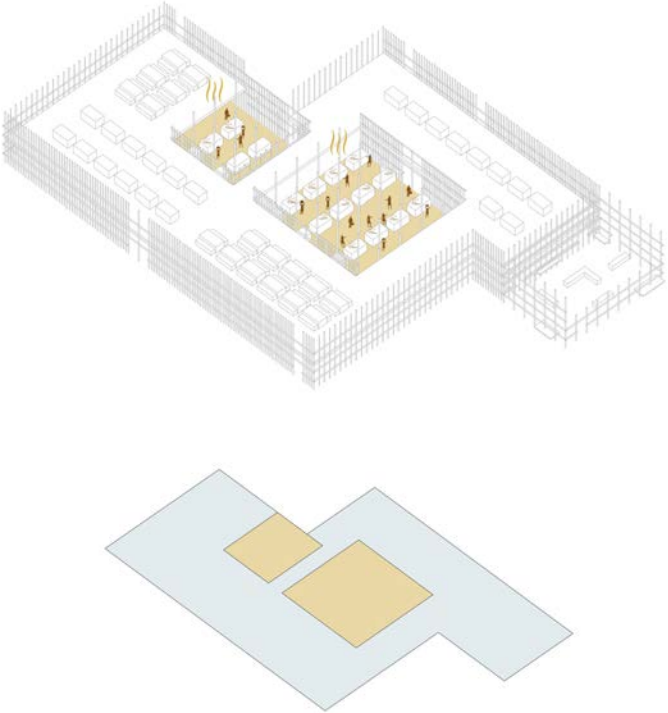
fig.27 Living Market - Zoning and circulation diagram

The market zone is divided into 4 parts. The four different components can make the market scheme more comprehensive and promote the farm-to-table theory. Moreover, they increase the opportunity for neighborhood development through interaction.



1. Outdoor resting zone

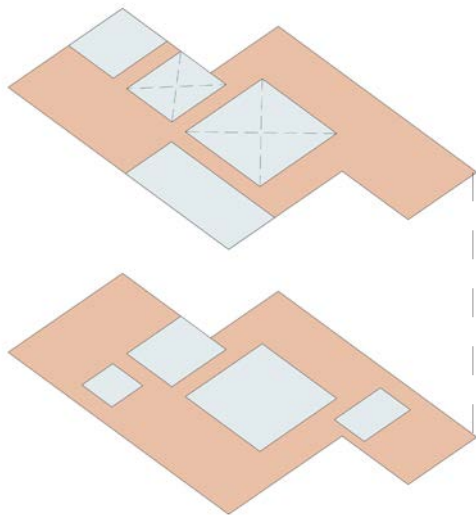
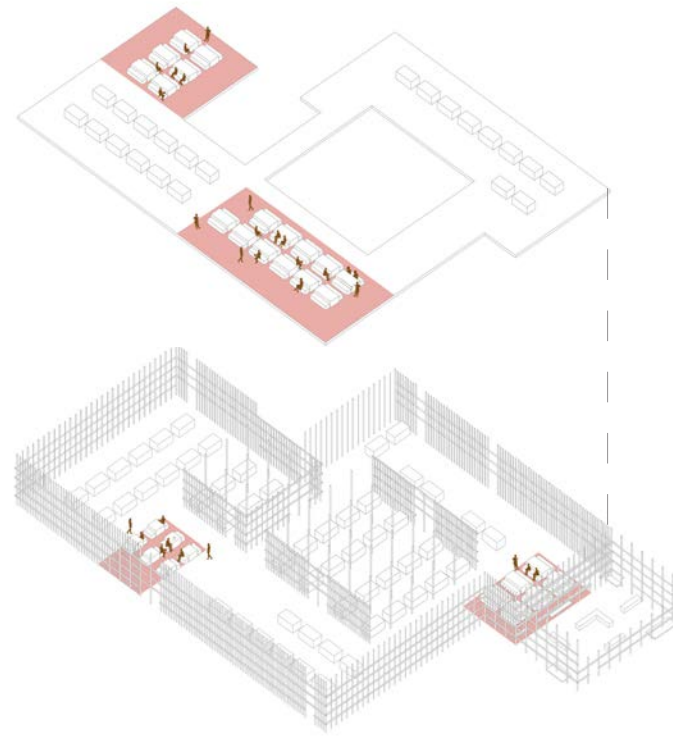
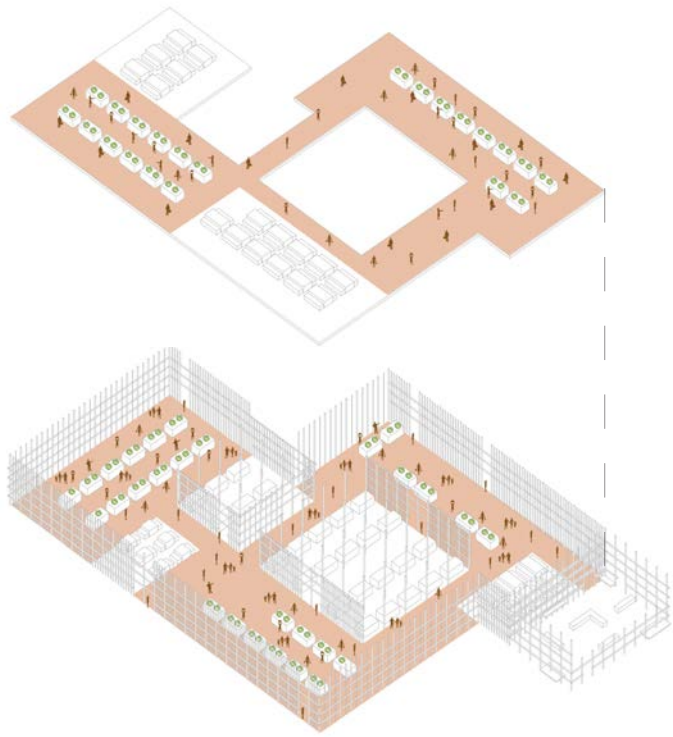
It allows for greater integration of the market with the bamboo forest, despite the high density of the interior bamboo walls. And it gives the impression of entering and exiting nature and architecture



2. Food stalls zone

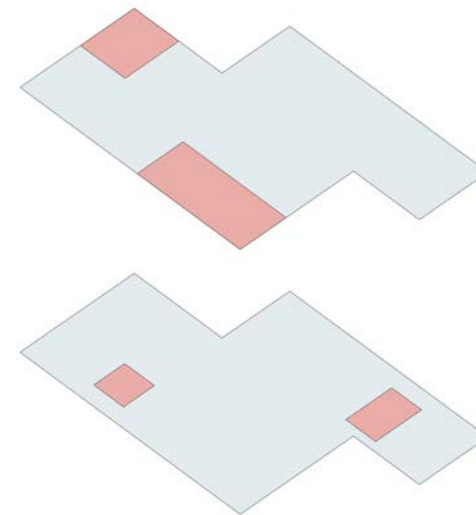
There is double volume space for the food stalls zone so that people can see it regardless of their level. And food odors can permeate the building, collaborating with farming zones to give people a sense of the farm-to-table concept

fig.28 Living Market - Market zone spatial diagram I



3. Other products stalls zone

People can sell their own goods or harvests in the remaining market space. In addition, the stalls are positioned in each corner of the market to increase interaction flow



4. Sitting zone

People can spend more time in the market and have more opportunities for interaction if there is a seating area

fig.29 Living Market - Market zone spatial diagram II

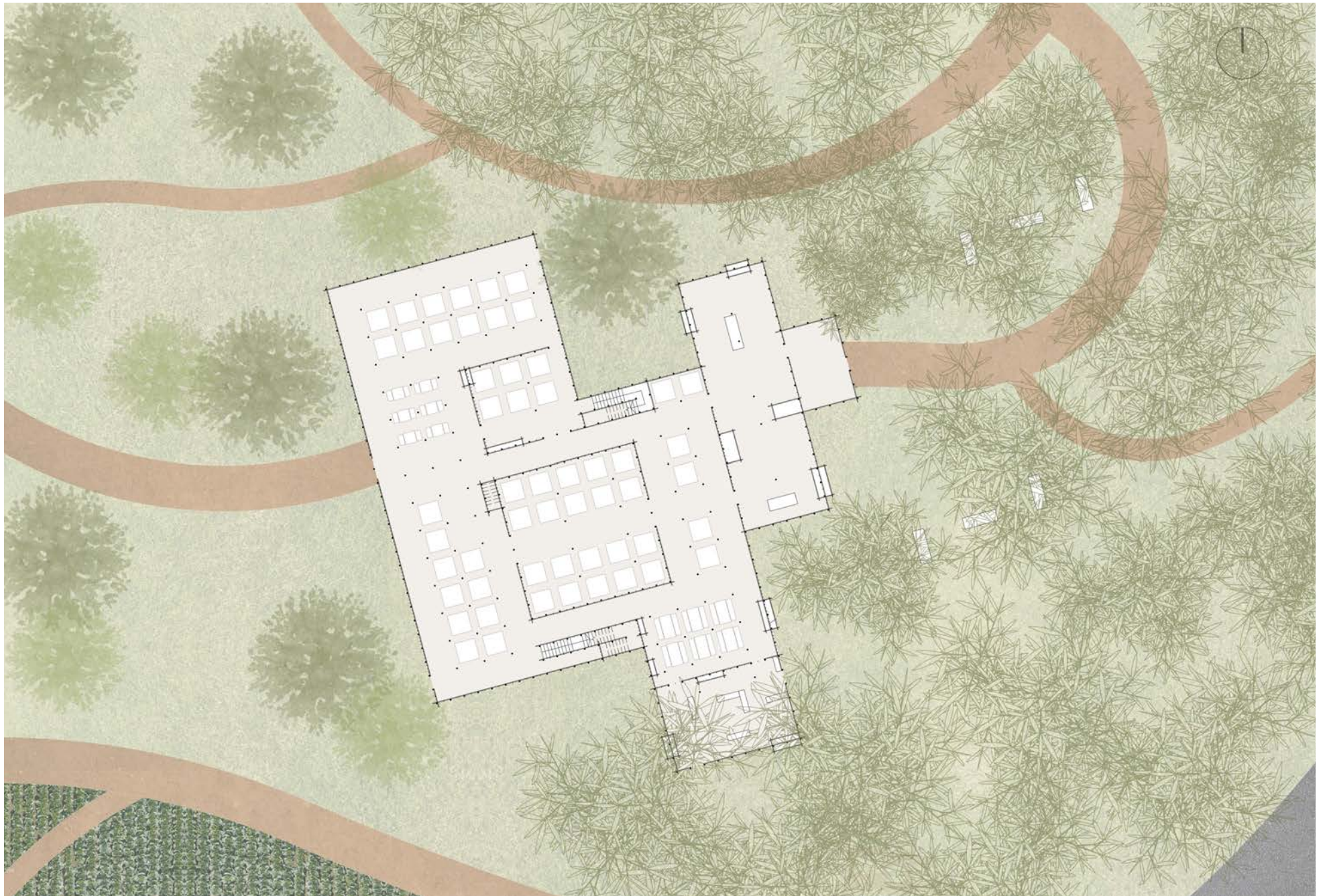


fig. 30 Living Market - Ground Floor Plan

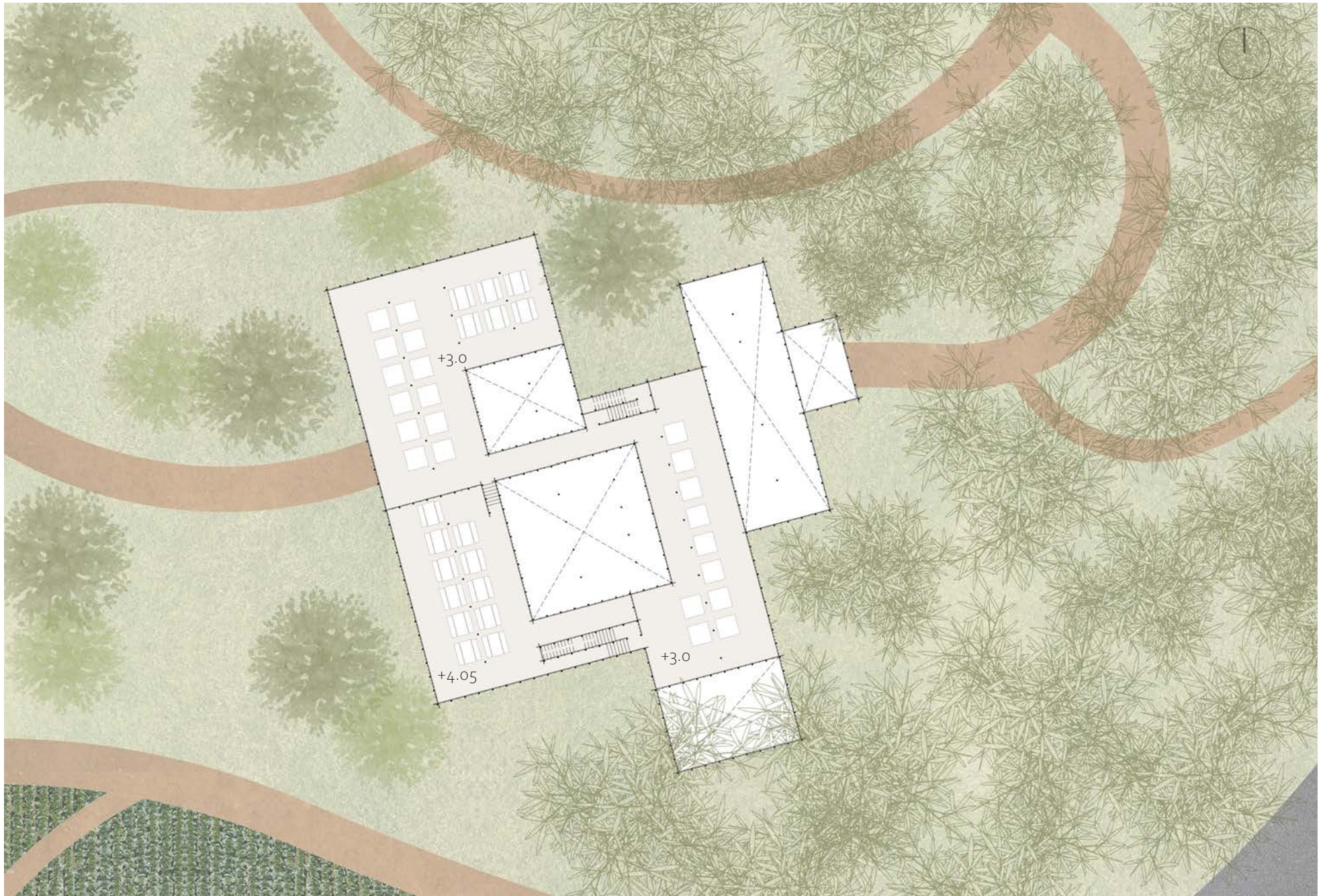


fig. 31 Living Market - First Floor Plan

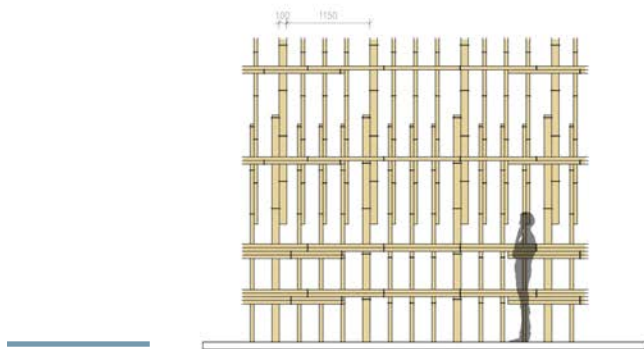
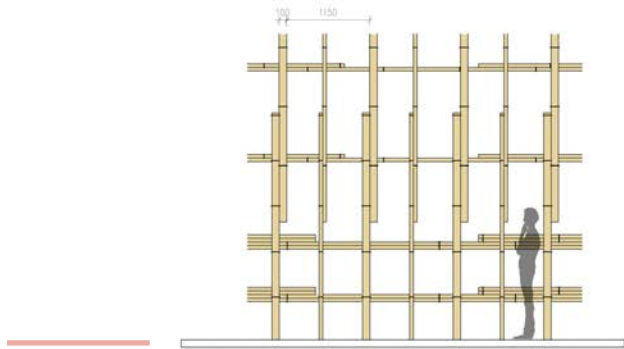
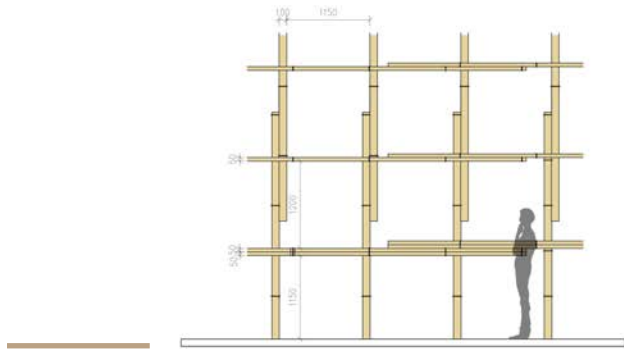


fig. 32 Living Market - Wall series diagram

Wall Series

The wall system has three variations with differing bamboo column densities. The distribution of wall types is decided by the purposes of the spaces. For instance, the wall of the first zone would have larger openings for improved integration with the bamboo forest.

And meanwhile, the change in wall density can give people a stronger sense that they are entering a building. The wall system assists in defining the spaces. In addition, the bamboo wall with the highest density would serve as the primary support wall for the entire design.

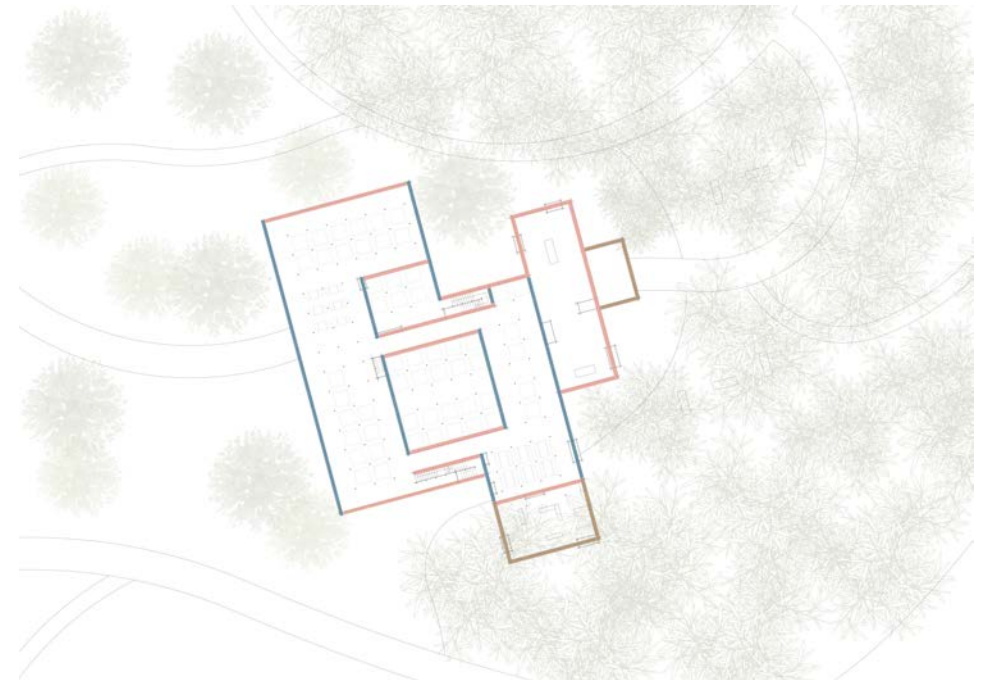


fig. 33 Living Market - Wall series distribution plan

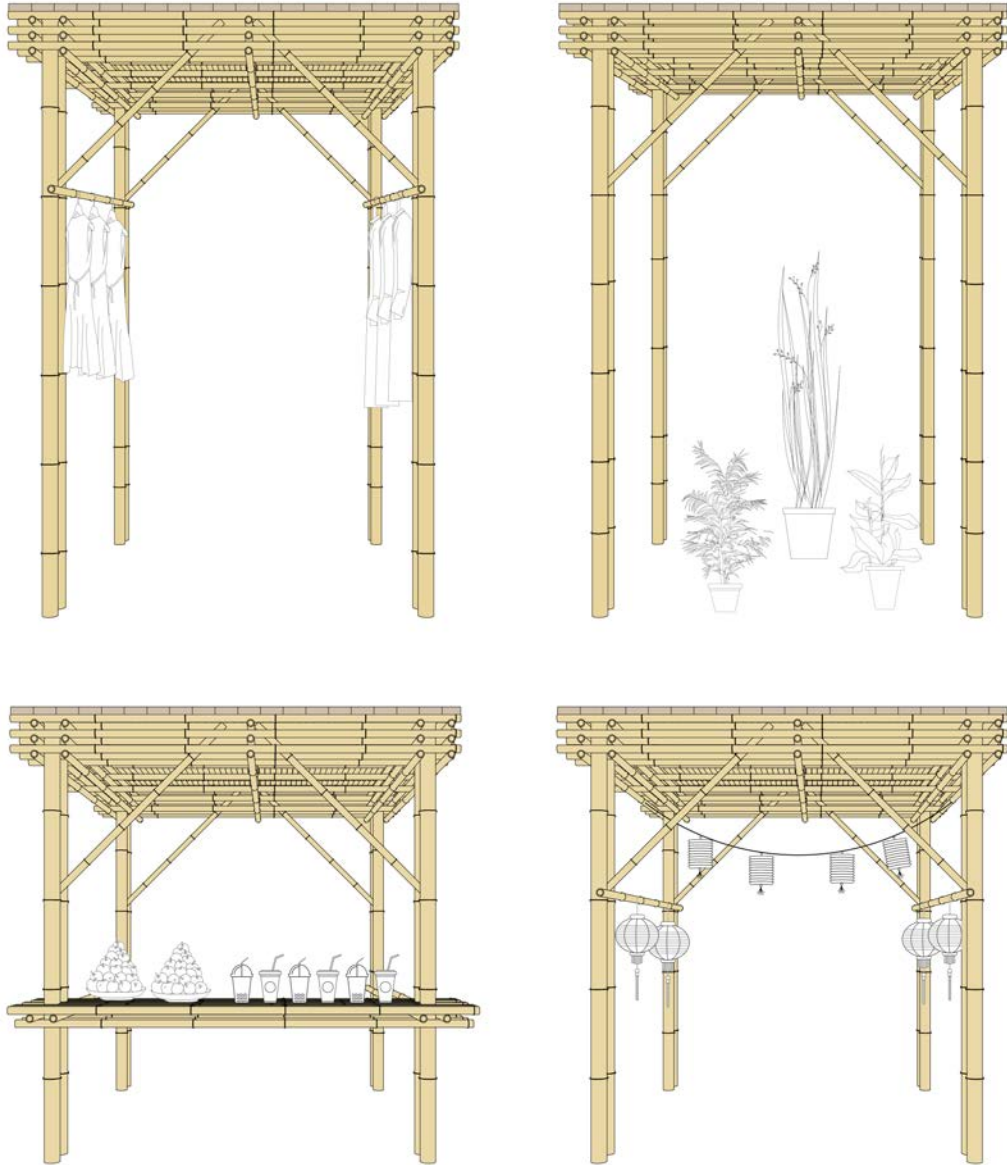


fig. 34 Living Market - Floor series diagram4

Floor Series

Two types of floor height exist. The two differences increase the likelihood of selling distinct products.

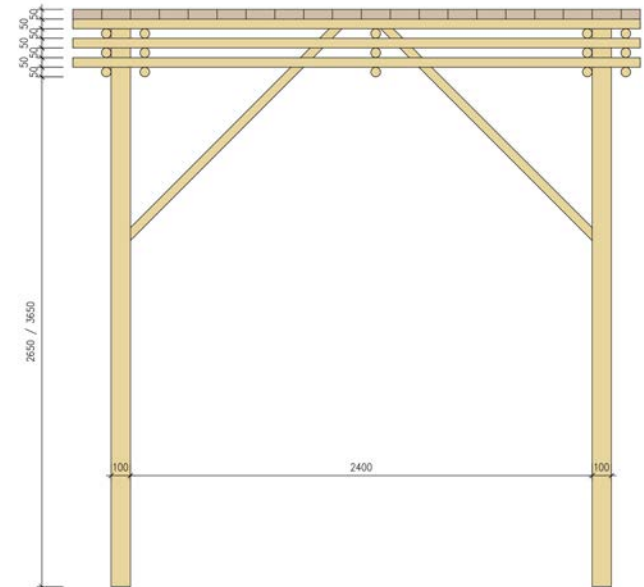


fig. 35 Living Market - Floor series section

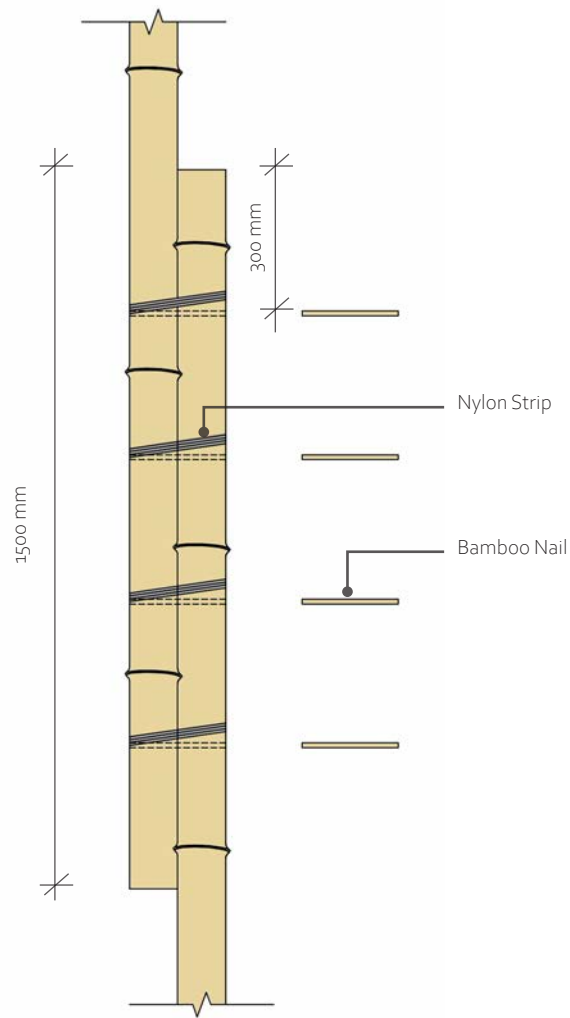


fig.36 Living Market - Bamboo sticks joint method

Construction Method

The construction of bamboo scaffolding is not difficult, but it does require the specify workers with certain skills & experience. Unlike other materials, such as wood or metal, it can be fixed to have the same size and quality. Each bamboo stick is unique and varies in size.

The traditional method of construction consists primarily of tying bamboo with nylon strips. Despite the method's apparent simplicity for a large-scale project, tens of meters tall bamboo scaffolding is typically constructed using it.

However, bamboo construction in Hong Kong is primarily used for temporary architecture. Therefore, if the Living Market project is expected to last at least five years, we must find a way to make the structure more stable and robust. In addition, residents are able to perform the procedure so that it should not be complicated.

As a result of discussions with mainland Chinese architects, they are also focusing on bamboo construction design. We concur that the bamboo nails will strengthen the entire scheme. The benefit of bamboo nail is that it is simple for locals to produce. In addition, we do not need any additional materials for the design to be truly sustainable and environmentally friendly.

Since I've already mentioned it, the bamboo scaffolding skill largely depends on the skill of the workers. Therefore, cultural transmission and inter-generational communication could be facilitated by teaching the locals how to make it.

Furniture Series

The interesting part of the Living Market is that it encourages people to make their own bamboo furniture. Everyone has the opportunity to participate in the building's development during this process. In addition to placing an architecture with functions, the market's ability to collect the efforts and recollections of different persons is of paramount importance.

Also, the furniture may be minimal, consisting of only a table or bench. However, it is already capable of meeting the needs of people who reside in a public space and contributing to community development.

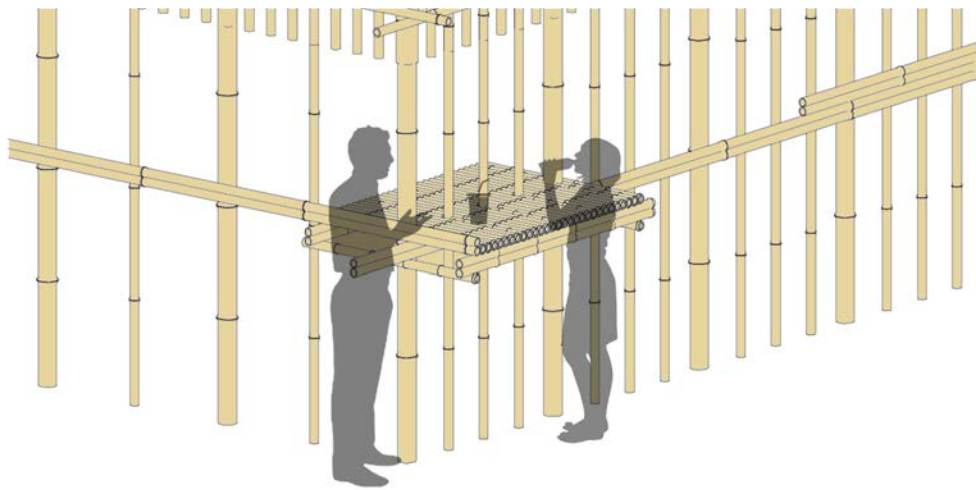


fig. 37 Living Market - Bamboo furniture diagram (Table)

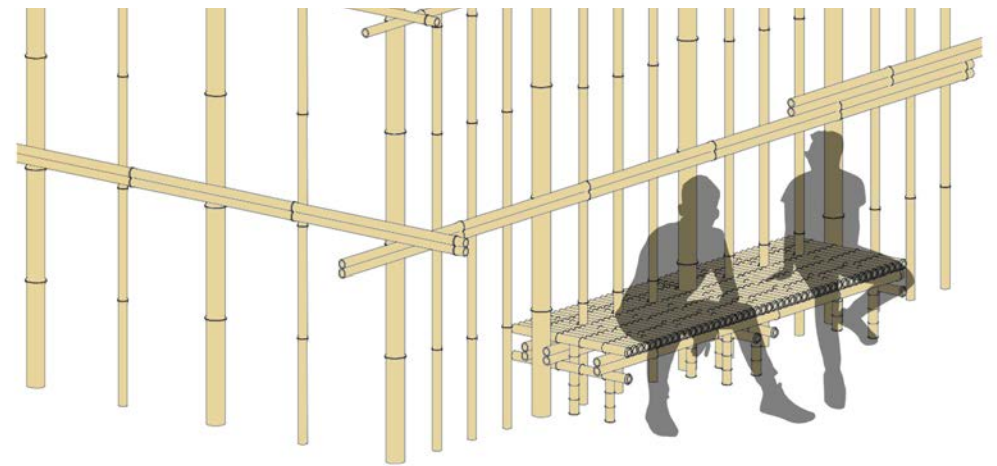
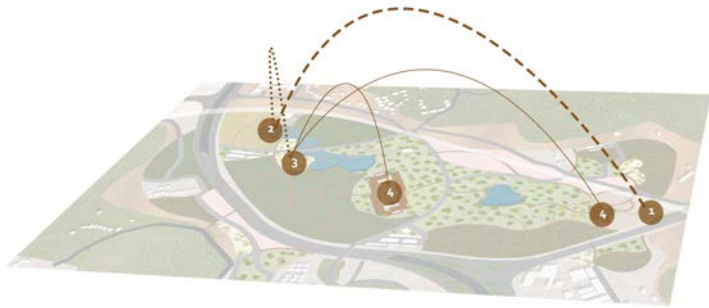


fig. 38 Living Market - Bamboo furniture diagram (Bench)



Sustainable Process of Bamboo

Since bamboo is the main element for both projects, the brownfield site contains a sustainable bamboo production line that exemplifies how the local material benefits our community. By coordinating brownfield redevelopment with building design, a holistic sustainability ideal from spiritual concept to physical architecture can be achieved.



fig. 39 Sustainable bamboo development diagram



fig. 40 Living Market - Sectional Perspective

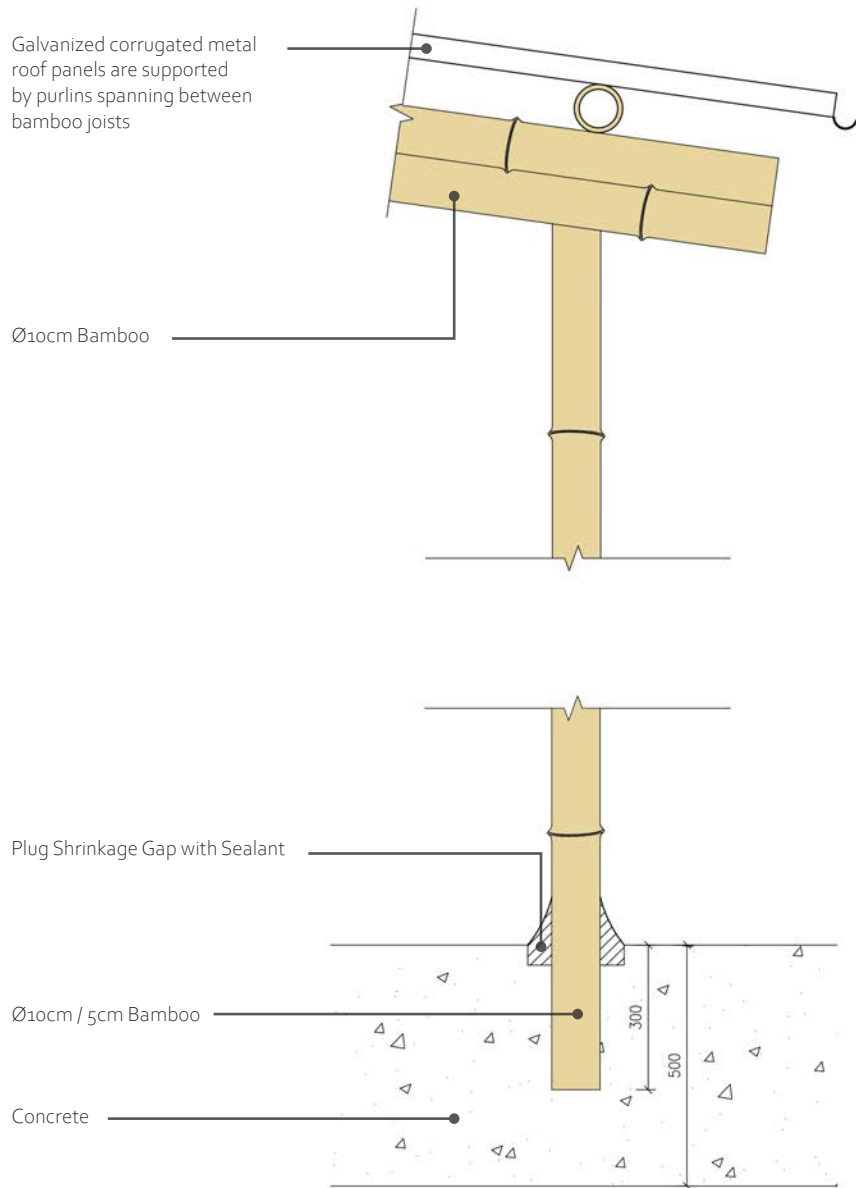


fig.41 Living Market - Roof and column structure

Construction Detail

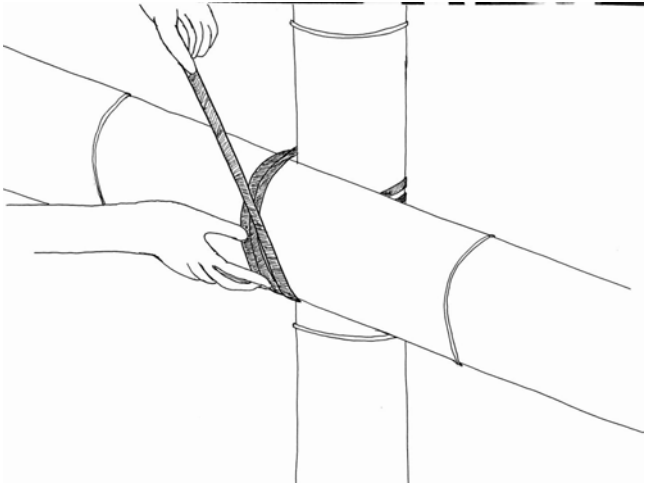
The drawing reveals that the building's materials are simple. Even though the structure is not complex, it depends mainly on the bamboo joint.

And one of the benefits of using bamboo as a building material is that residents can repair the structure themselves. As previously stated, there is no complex skill. People require time and practice, consequently, a simple structure enables more people to participate in building maintenance. At that point, they may also feel more connected to the location.

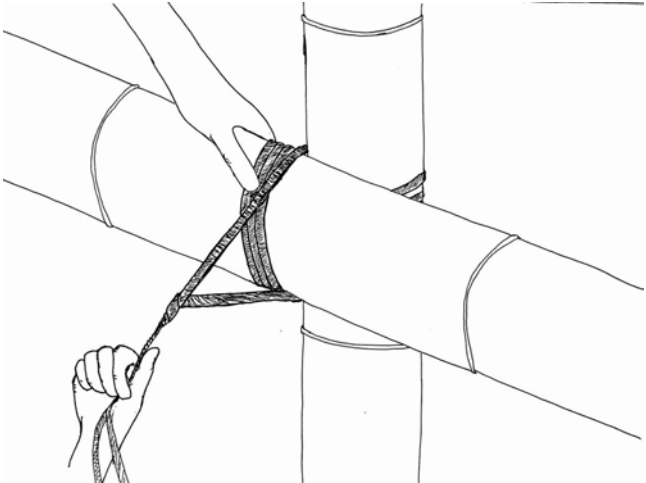
Additionally, it suggests that they may not always need to hire additional repair specialists. It is more appropriate for a grassroots-focused space.

Bamboo Tying Method

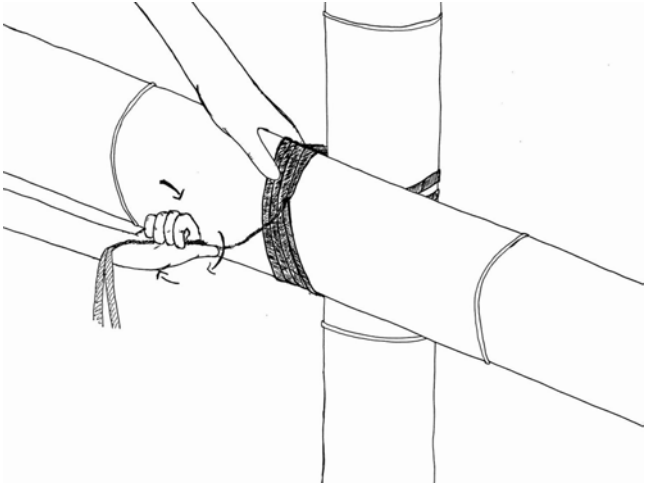
Method for Tying Bamboo Here is the traditional method for bamboo scaffolding. It exemplifies the adaptability of Hong Kong traits. A strong and thin nylon strip can be used to fix bamboo of various sizes, construct tens of meter in height, and allow people to walk on it.



Step 1: 3 turns of nylon tape are used to increase the strip's surface area

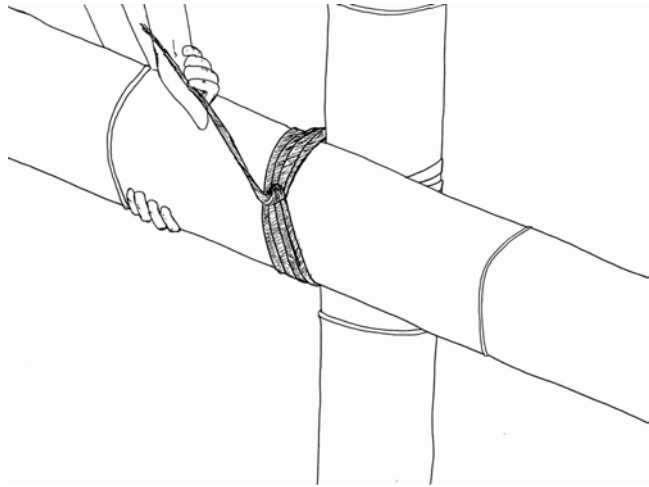


Step 2: Combine the head and tail nylon belts and roll them into one

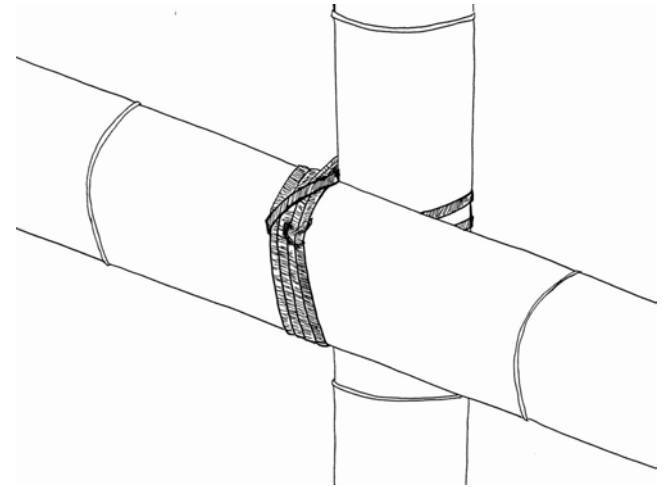


Step 2: Combine the head and tail nylon belts and roll them into one

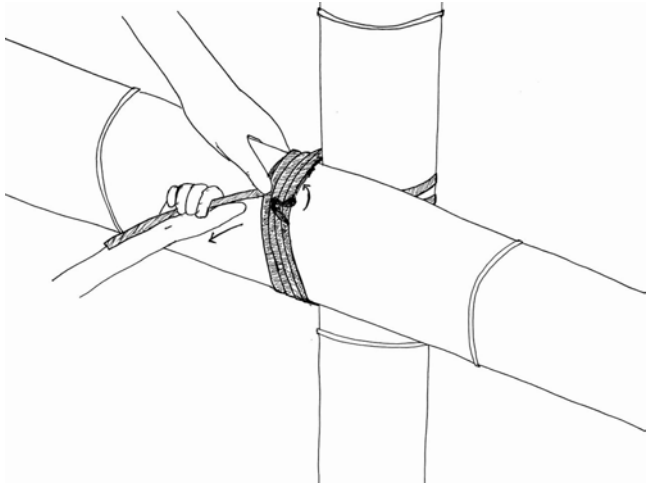
fig.4.2 Living Market - Bamboo tying process diagram I



Step 3: Form a nod with the nylon strip



Step 5: Gather the strip's end and tuck it between two bamboo branches



Step 4: Thread the strip end through the bottom and pull firmly

fig.43 Living Market - Bamboo tying process diagram II

Chapter 6

Building Design - Craft Village

Building as a medium to assist residents in developing their own cultural identity and community sustainability

6.1 Inspiration

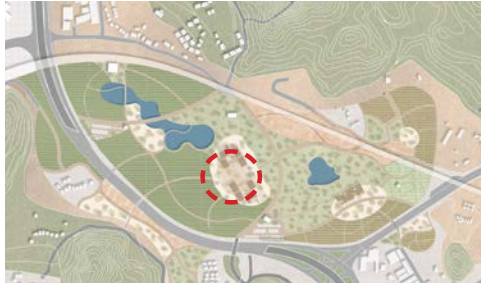


fig. 44 Craft Village - location plan

In the past, traditional festive customs were expressed through rituals that incorporated ethical concepts such as respect for the elderly, fondness for the young, and neighborly assistance. These festivals, which incorporate cultural elements such as food and art, have been passed down from generation to generation, thereby preserving the relative stability and growth of the village community, which relies on this timeless and nostalgic cultural activity.

The intention of Craft Village is to revitalize the waning traditional cultural practices of 'festivals' and make them an integral part of community life. Reconstructing a sense of place and transmitting distinct cultures through traditional festivals.

Gradually encouraging family and community to celebrate festivals together. This has added not only cohesion to disparate neighborhoods, but also to the cultural identity and atmosphere of the village. Additionally, community cohesion will be strengthened during the festival.

The village strategy is founded on the traditional courtyard layout. In the past, courtyard design was prevalent in residential architecture. And its benefits include a strong internal connection among family members. Essentially, the courtyard space is enclosed from the exterior to encourage family members to congregate and increase interaction opportunities.

And this is the main reason why I believe the craft village has a courtyard system. This type of traditional spatial quality is capable of transforming the traditional neighbor space spirit to the present and demonstrates how the past affects the present at the same time, as it is the architecture that attempts to link back to history and tradition. All of this is intended to strengthen the connection with the past in order to increase the cultural identity of space users.

In addition, the traditional spatial quality complements the material - blue brick - in order to create an atmosphere for the project's target groups, such as the elderly. Moreover, it makes the concept of cultural identity visible in architectural design.



fig.45 Drawing of Tang's ancestral hall (Angryangry, 2017)

6.2 Insight

Even though the courtyard's design is a great source of inspiration for the craft village concept, there is one element that may no longer be appropriate. It is an enclosed wall surrounding the entire structure.

As time passes, some traditional cultural concepts are no longer applicable. For instance, the importance of a closed wall in residential architecture extends beyond the internal interaction. In the past, the rooms were separated and some housework, such as washing and drying the linen, was performed in the courtyard. People have traditionally believed that filthy or undesirable parts should not be displayed to the public. However, technology and habits have already completely transformed our lifestyles in modern times.

In Hong Kong, we have consistently observed an increase in indifference towards others. In today's society, therefore, an open and friendly design is more vital. Craft village is not a copy of the traditional courtyard layout, but incorporates a modern spatial concept.

The creation of a neighborhood and the transmission of culture from one generation to the next can be accomplished through the use of an internal courtyard layout with enhanced connections to surrounding elements. To better connect the people around the brownfield site, we adapted the traditional spirit for contemporary society.

It can be beneficial for both the elderly and the young. Permit the elderly who are familiar with the traditional courtyard space to explore it further and discover the benefits of the new design. This process allows the elderly to grow closer to the younger generation and adapt to modern society. At the same time, the craft village can introduce the younger generation to traditional courtyard space. And through various activities, demonstrate the beauty of traditional culture.

6.3 Design Approach



Large event for all people

The Plaza (Large Courtyard) serves as a hub for connecting people and memories. And thus, the location is able to enhance the sense of community and strengthen the neighborhood.

Small event for specify group

Able of preserving traditional events for a specific group

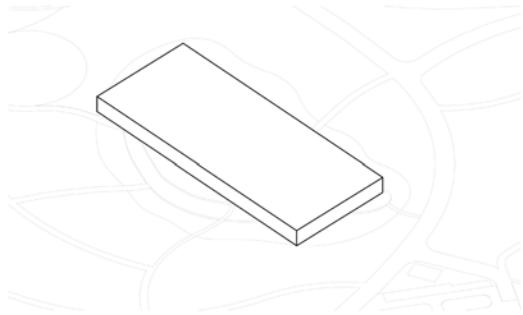


Combine courtyard and festival

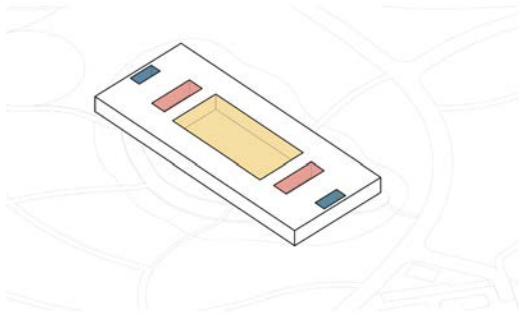
Using the courtyard sequence to represent the progression of a festival event. Traditional courtyards have a hierarchy of privacy from public to private. The event's design includes a distinct operation flow after defining the activities and target groups.

Under this proposal, traditional artisans could be gathered and put to work together. And others can gain a deeper appreciation for the festival and the traditional craft. From this architecture, people can gain more cultural knowledge and construct a new community for cultural transmission. Whether the cultural aspect or the neighborhood aspect, both be sustainable.

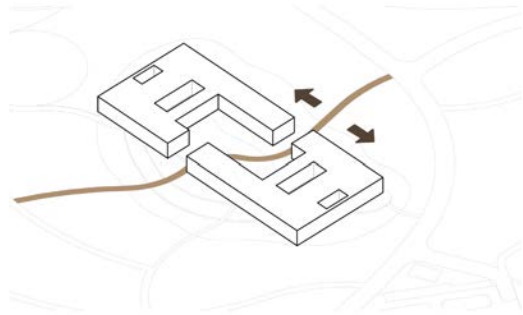
fig. 46 Craft Village - Courtyard program diagra6



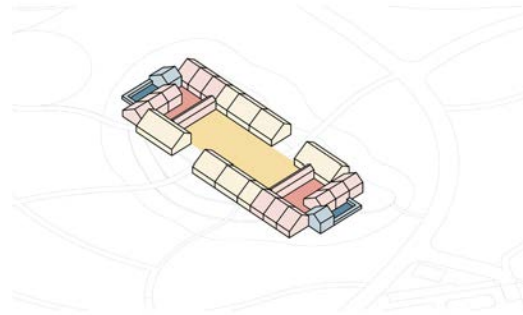
1. Design a rectangle building



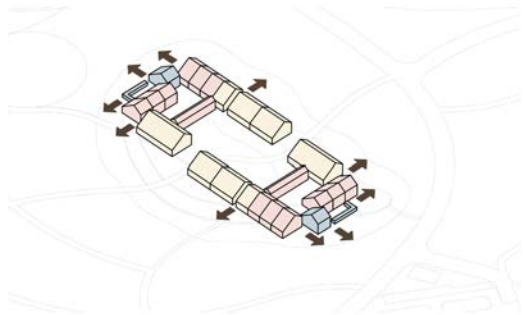
2. Apply the traditional courtyard spatial concept on a variety of scale



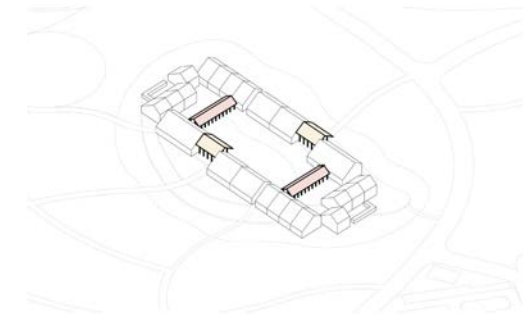
3. Divide into two parts by circulation



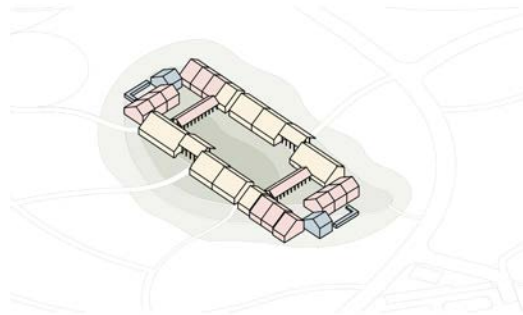
4. The building blocks are defined according to their intended use in the courtyard



5. Separate to open building blocks to create a stronger connection to the environment



6. Transform or add semi-open spaces to buildings to strengthen the overall design cohesion

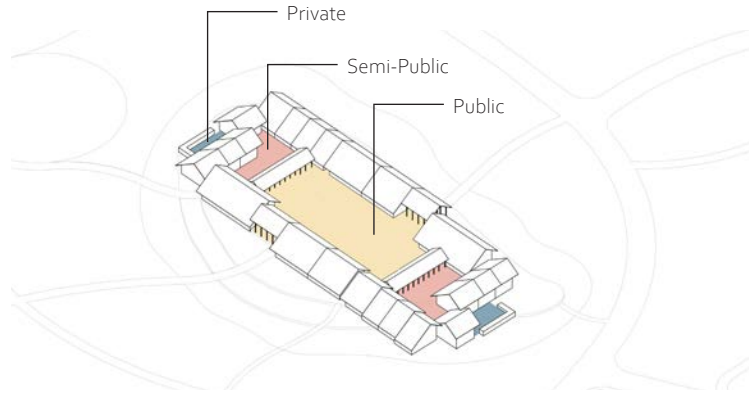


7. Divide the blocks into different levels based on the topography

fig. 47 Craft Village - Form development diagram

Courtyard spatial sequence

The courtyards are separated into three sizes and levels of seclusion. And the degree of privacy determines the scale of the activities and ritual events.



Small Size Courtyard

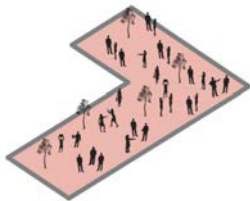


1. For Festive Rituals



1. For Relaxing

Medium Size Courtyard



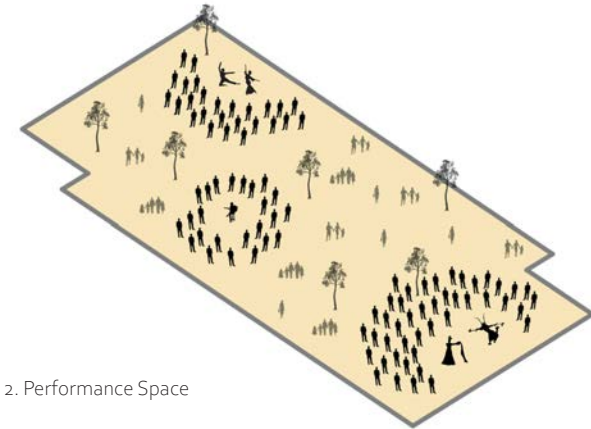
1. For gatherings of craftsmen that provide more opportunities to exchange knowledge and gain inspiration.inspiration

fig. 48 Craft Village - Courtyard function diagram

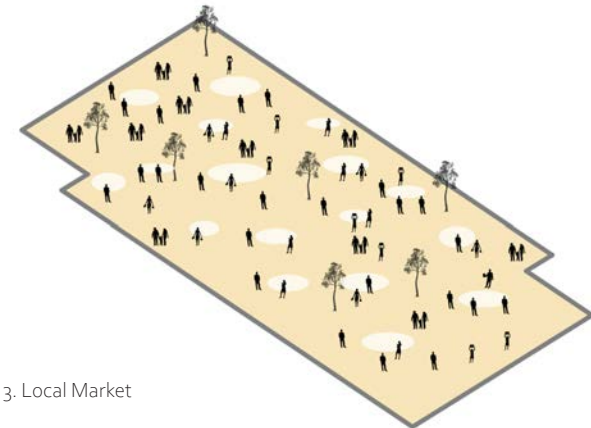
Large Size Courtyard



1. For Festival Celebration



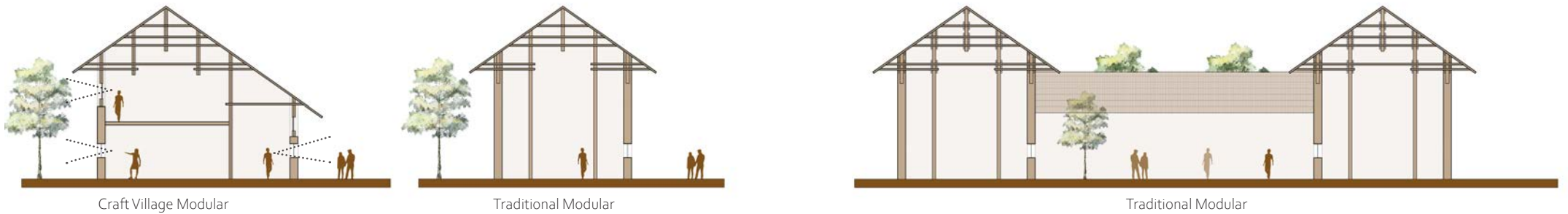
2. Performance Space



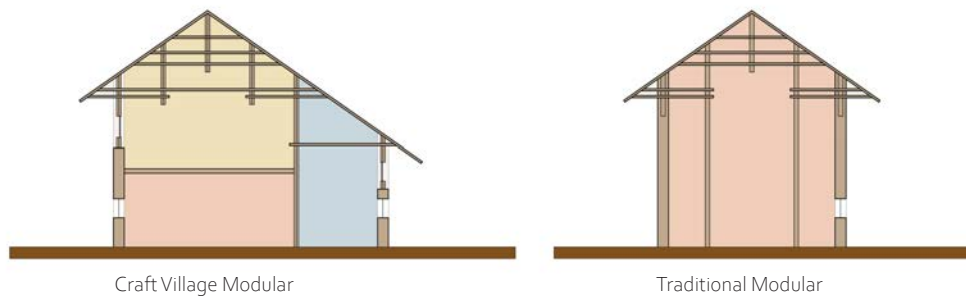
3. Local Market

Spatial Comparison

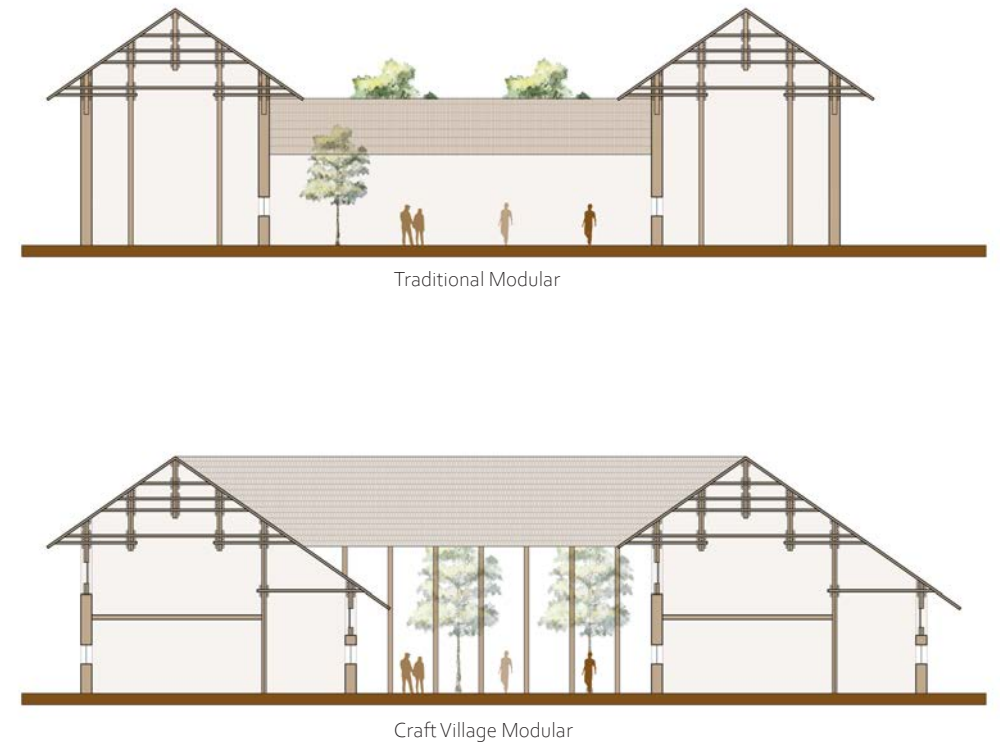
Even though the modular design of the craft village is based on a traditional format, the spatial quality has been updated to be more contemporary. The new design has shown that the building should have a strong connection with its surroundings, rather than concentrating on the internal people and environment.



1. There are more openings on both sides of the wall, allowing for greater interaction with the surroundings.



2. Add one more floor to the building to divide the interior space into 3 different spatial qualities. New modular fits the workshop space better and allows for more participants than the traditional one.



3. The traditional courtyard building has solid walls that connect it. The entire purpose is to strengthen the family's cohesiveness. However, as a community building, the craft village should be more accessible to the public. Consequently, the solid wall is replaced by the roof structure. Not only can the building become more welcoming, but it can also interact with its natural environment.

fig. 49 Craft Village - Old & New Module spatial comparison

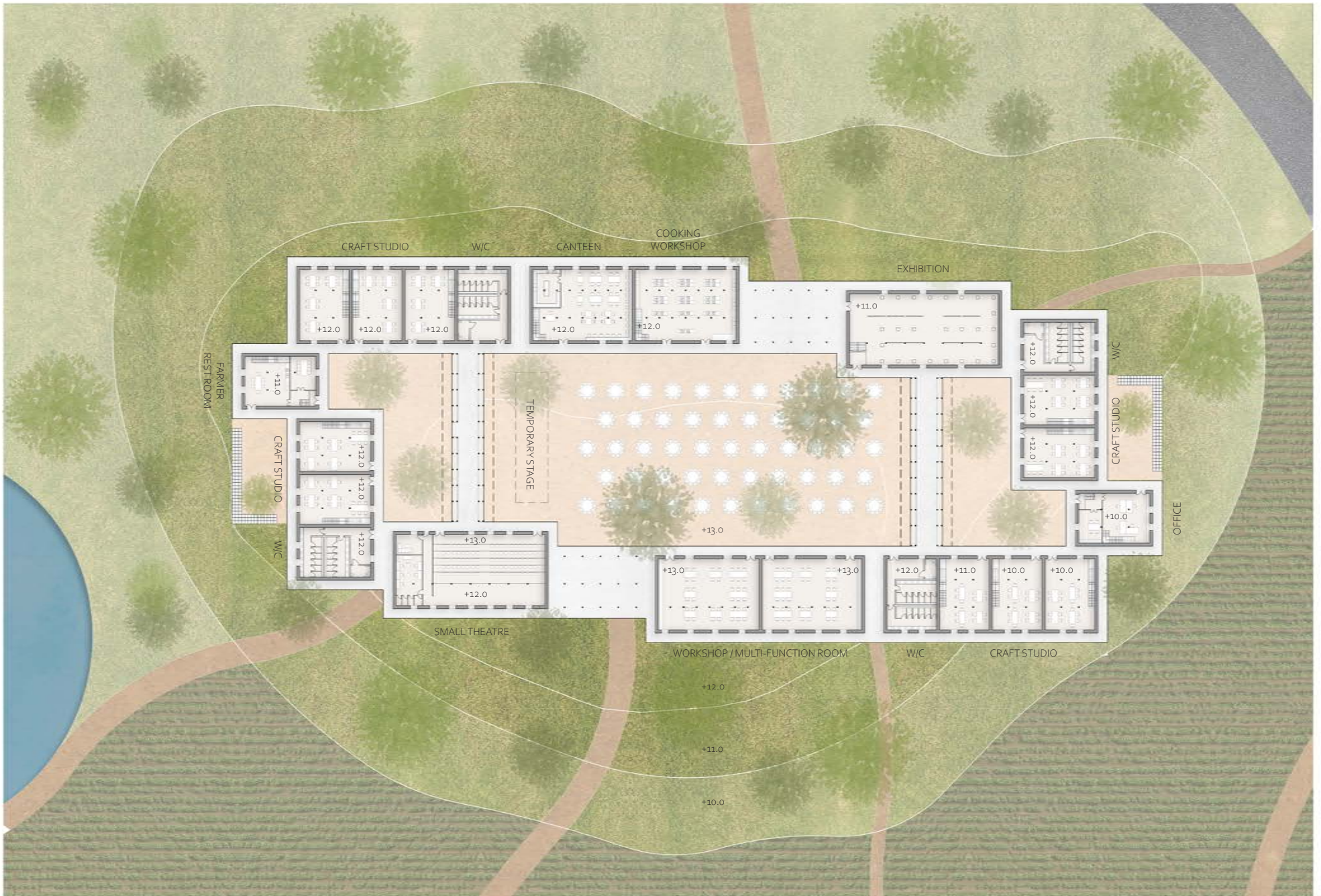


fig. 50 Craft Village - Ground Floor Plan

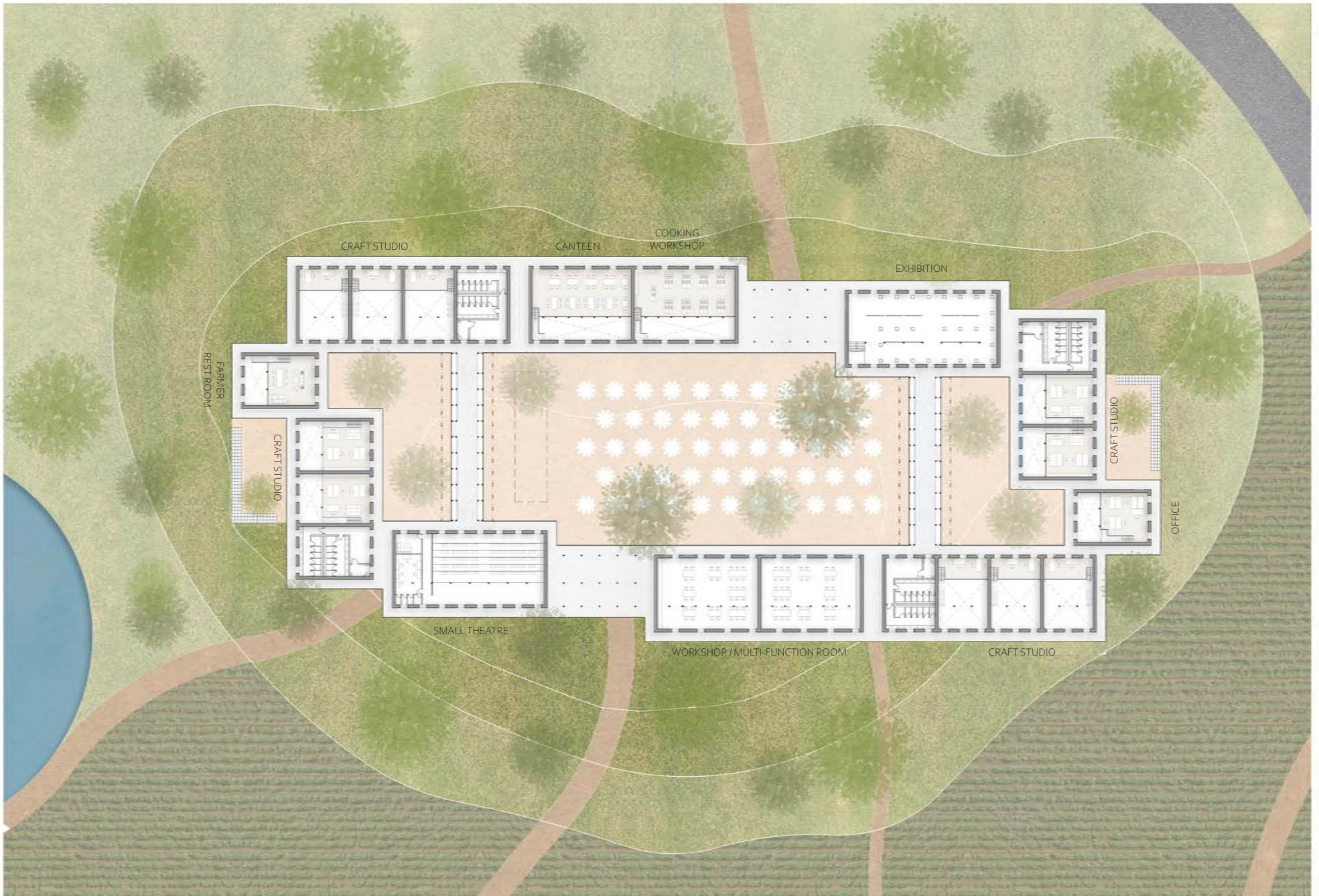


fig. 51 Craft Village - First Floor Plan

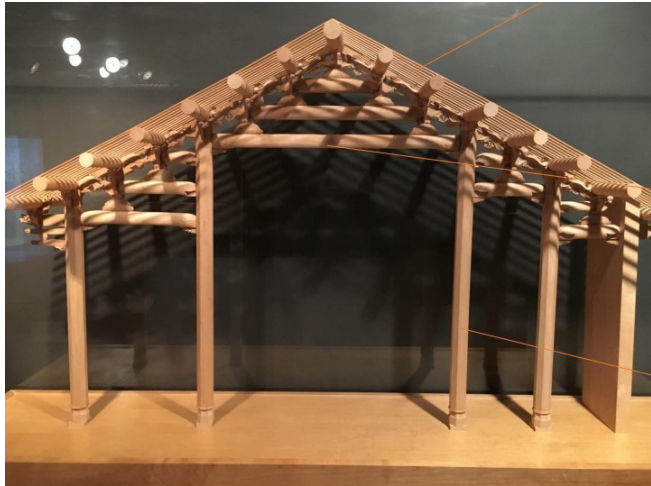


fig. 52 Tang's Ancestral Hall Structure Model (Hong Kong Education Bureau, n.d.)

Modular Design

For the modular design, there are few essential parts.

1. A 1.5-meter extension of the building's roof to provide a covered walkway through the village on rainy days.
2. The structure of the roof is made of bamboo. It makes reference to the traditional wooden roof structure and local materials. Not only does this enhance the connection to traditional culture, it also illustrates the material sustainability and possibility.

The unbalanced roof shape is intended to allow more natural light into the building. Moreover, the orientation of the roof is determined by the sun path.

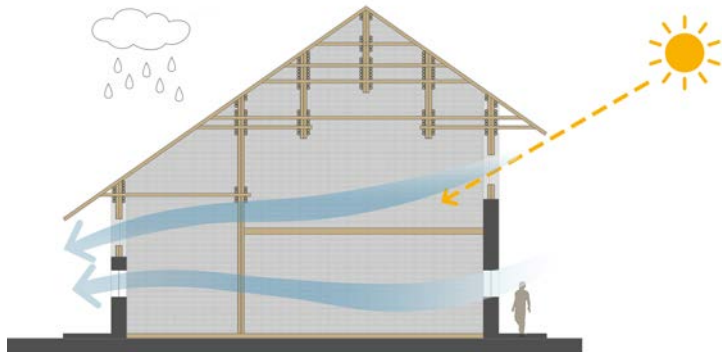


fig. 53 Craft Village - Building block modular diagram

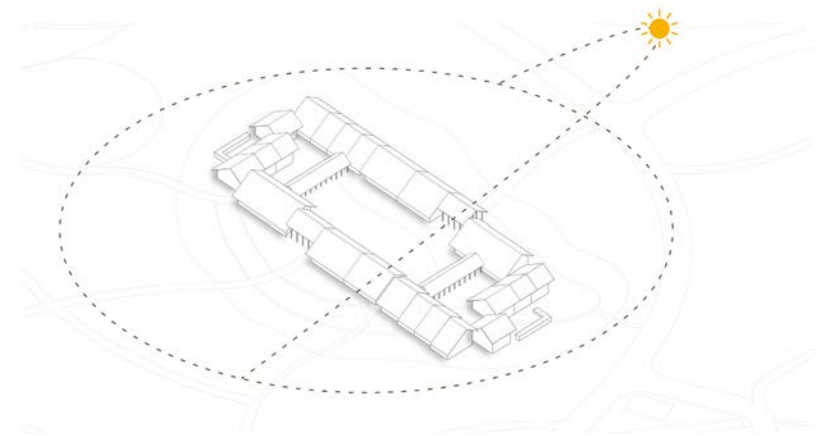
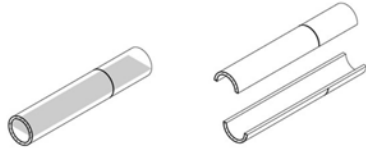


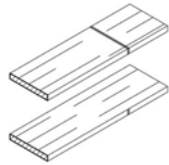
fig. 54 Craft Village - Sun path diagram



1. Divide the pole into different sections



2. Cut pole section in half, lengthwise



3. Flatten pole section using hatchet



fig. 55 Craft Village - Bamboo construction method and process (MARIA FARRUGIA & SAI GOUTHAM, 2021)

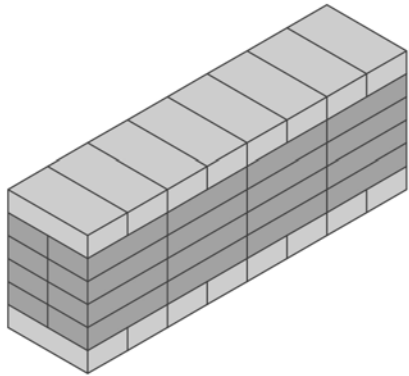
Bamboo Roof Design

The roof structure uses the same bamboo construction method as the Living Market. It combines traditional architecture with Hong Kong construction techniques.

As previously stated, the building has one additional floor that is closer to the roof. The bamboo roof structure can be better utilized in this space. Artists may, for instance, display their papercraft, the most common art for traditional ritual events. Explore having the bamboo structure be an integral part of the space, not just as structural elements. And this is the way to demonstrate the capability and quality of bamboo.

Additionally, the roof is covered with flattened bamboo. It is chosen because the building is composed of two major material components: traditional and local craftsmanship. And the flattened bamboo could exemplify in another performance that bamboo can imply various forms.

Traditional Brick Pattern



New Brick Pattern for Craft Village

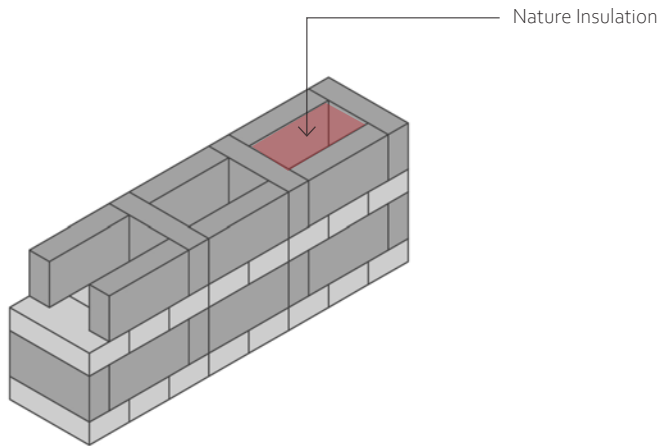


fig. 56 Craft Village - Brick wall diagram

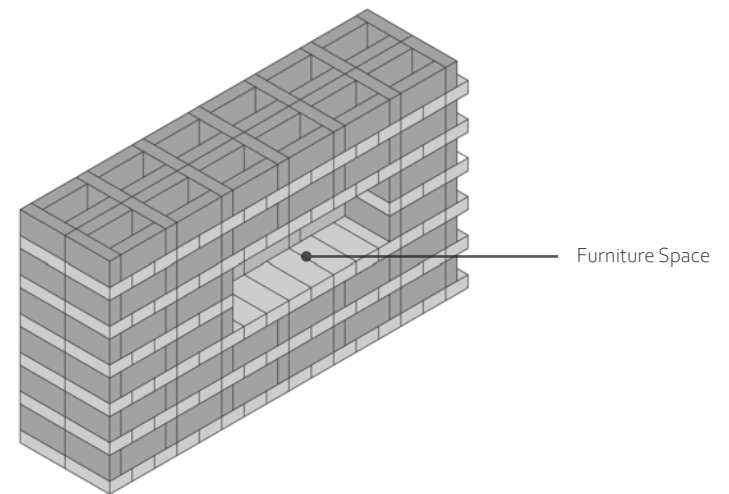
Brick Wall Design

Throughout moreover to the structure of the bamboo roof, the layout of the blue brick walls is also essential to the design. In addition to relating to traditional culture, the material selection also represents the building in a natural and sustainable manner.

Compared to the traditional brick pattern, the brick pattern has been reorganized to include the natural insulation and cost-effectiveness effects. For instance, the structure uses fewer bricks than traditional structures in the same area.

At the same time, the wall system consists of two brick wall layers. In addition to providing a stable and sturdy support for the bamboo roof, it could also serve as furniture, such as bookcases.

And most importantly, this traditional and simple wall system allows residents to repair it themselves without needing to hire a professional. To accomplish the goal of encouraging people to value the items or spaces they possess.



The flattened bamboo panels with waterproof bitumen and waterproof sheet roof are supported by purlins spanning between bamboo joists

Bamboo Wall

Brick Wall

Brick Foundation

600

fig. 57 Craft Village - Sectional Perspective

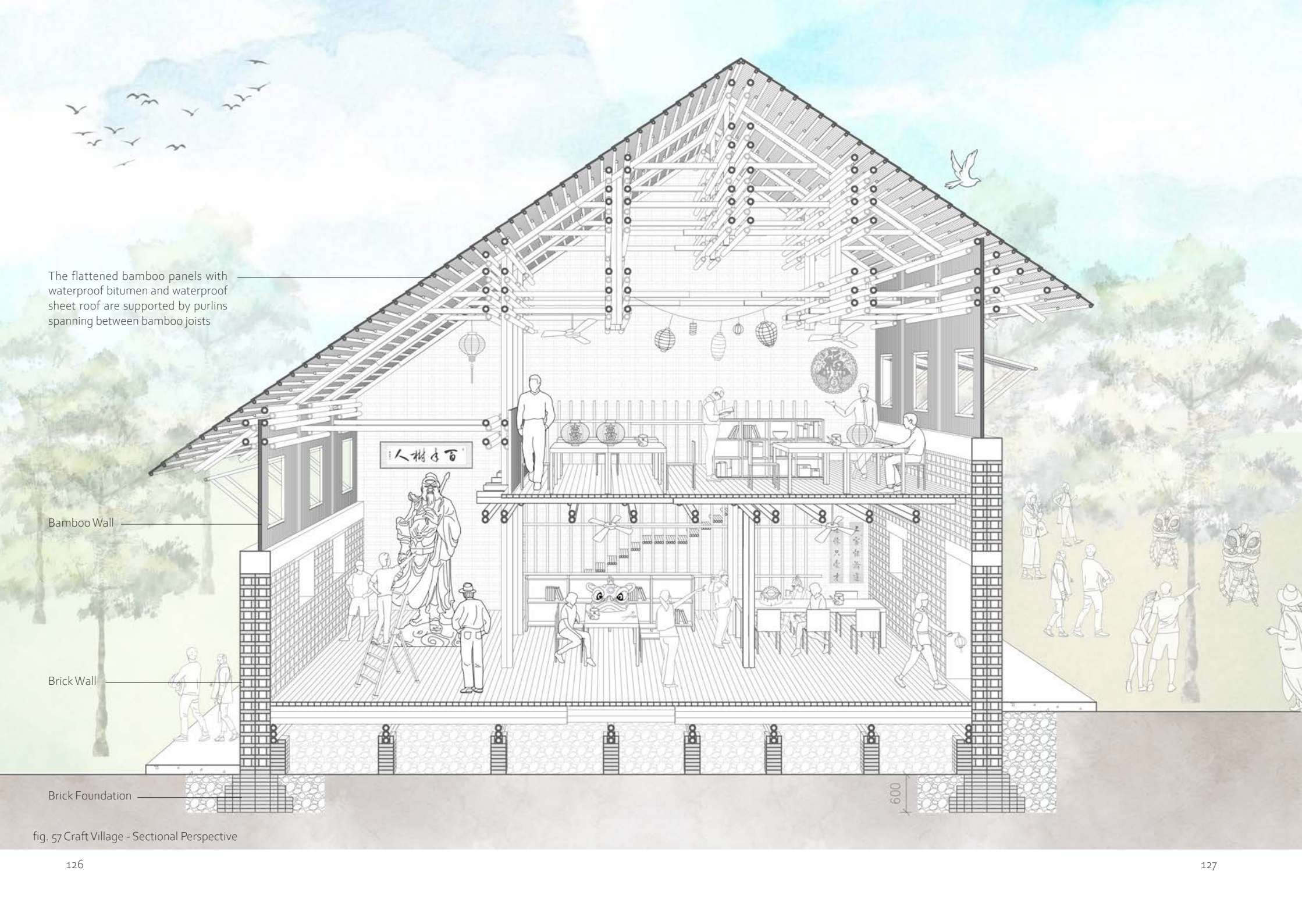




fig. 58 Craft Village - Elevation

Project Conclusion

From the preliminary study to the thesis study, Social Sustainability remains the project's core concept. And this concept is divided mainly into two directions.

1. Community participation
2. Local culture history

The first part mainly consists of urban-scale proposals to transform a brownfield site into a farm park. Through agricultural activities and public space, Tin Shui Wai residents will experience a better quality of life. Moreover, the park offers numerous opportunities to encourage diverse parties to participate in the development of the park. In addition to the focus groups, the rest of the surrounding community should be considered during planning. Consequently, the preliminary study is resolving the path of community sustainability.

And the thesis research focuses on the second factor, which is cultural sustainability. Cultural identity and cultural preservation are inseparable. Because when we have our own cultural identity, we will support cultural transmission and have the means to preserve culture in order to ensure cultural sustainability.

After reviewing the Hong Kong government's cultural policy in light of the city's rapid urbanization, it is evident that our culture and sense of identity are eroding. There comes a point when we must realize that the local culture represents our cultural identity. The majority of cultural treasures originate from local grassroots activities. However, policies are eliminating the majority of these activities. Without a doubt, this contributes to the decline of cultural identity in the area.

The primary objective of the thesis study is to restore the local culture. Using the method of architecture to provide the space necessary for grassroots activities. Architecture is a medium to assist people in discovering their own identities. The main responsibility of architecture is to provide opportunities - Individual, Communal, and Societal opportunities.

Therefore, the key concept for two buildings is not merely to provide space, but rather to encourage residents' participation in the architectural design process. Therefore, the approach to building design utilizes a non-invasive method. In lieu of constructing a perfect structure, I propose bringing buildings closer to human scale and encouraging multiple parties to participate in the architecture. It includes not only how residents use the space, but also how they can construct it. And it is the means by which the goal of cultural transmission can be archived and the sense of belonging to the location enhanced. Its transmissions include craft, neighborhood, and thought.

We can only discover the cultural identity if we can identify the cultural transmission in this flaw. And then to complete the different layers of sustainability - individual, communal, and societal.

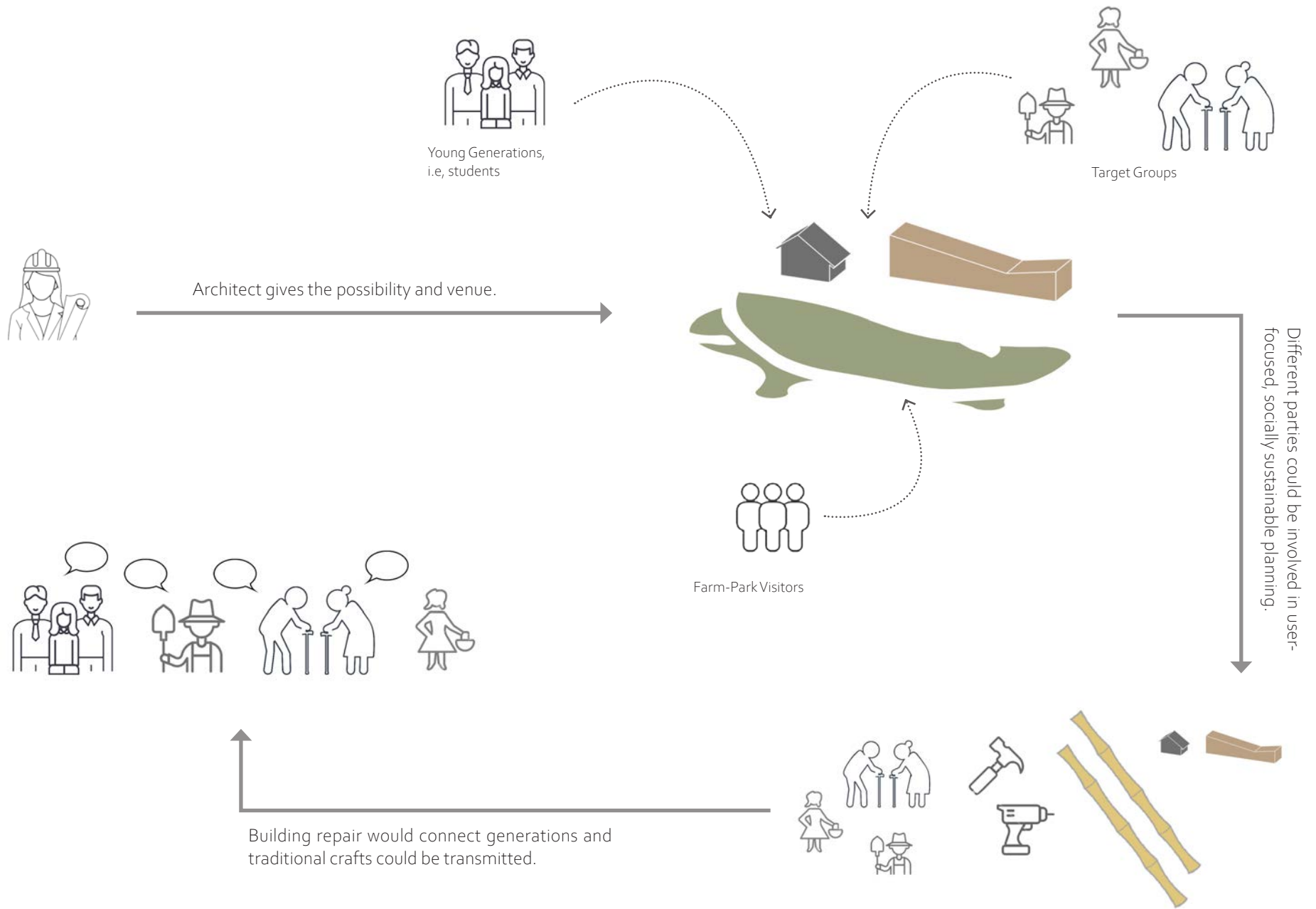


fig. 59 Project conclusion diagram

"If no one truly loves and is willing to use the building, then it is not sustainable."

Personal Reflection

This project presents me with a challenge. More important than the scale of the project is the ability to design non-invasive architecture. During my study period, my first thought prior to design is typically how to create "Wow" architecture, in which the building is the protagonist. Nonetheless, in this project, particularly for the thesis study part, I must learn and consider how architecture can be an element that permanently improves our lives.

The topic of "Sustainability" is frequently discussed. In Hong Kong, sustainable or green architecture typically entails the installation of additional solar panels or the provision of a green wall that serves as the building's decoration. After two years of study in Liechtenstein, I discover the other side of what constitutes true sustainability.

No longer would I be concerned that the design is too straightforward or that the appearance is insufficiently appealing. Concerning me most is how to increase participation in architecture. It is less about how they can use the space and more importantly how they can build it to store their own memories. And the people pass on their memories to the following generation. I consider this to be the most valuable and beautiful item in this concrete jungle.

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LEGAL STATEMENT

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WONG SIU SIU

Vaduz, 2022