Metropolitan Park Development
A Sustainable Development Design & Strategy for the In-Between Cities Area in Hsinchu Metropolis

Mu-Tien Chen

Globalization Studio 2008
TU Delft Master Science of Urbanism
TO MY LOVELY COUNTRY,

TAIWAN
Metropolitan Park Development
09.2007 ~ 06.2008

A Sustainable Development Design & Strategy for the In-Between Cities Area in Hsinchu Metropolis
“It’s definitely a gift that God gave me the chance to study in the Netherlands...”

Study abroad was one of my dreams when I studied Bachelor of Science in architecture in Taiwan four years ago. It is really hard to imagine how I could come to the Netherlands and switched my major from architecture to urbanism which was totally out of my plan. After four years study in architecture, I was wondering what and how could an architect could contribute his or her profession to the society and make a better environment to people. The answer was not clear to me and that became one of the most important reasons I would like to seek abroad with a broader view and to discover more and more possibilities. However, I didn’t get a offer based on my first choice, architecture, but urbanism. When I got the offer for Master Science of Urbanism from TU Delft, I was still thinking to change my major to architecture again. At that time I had limited understanding in what can I learn in urbanism, and what can I do after the study? I feel I am luckily enough I chose to keep the original offer. These two years just like an adventure to me in discovering the world and friends, but also in finding more and more possibilities and responsibilities for what I can do through the declines from urbanism. The life in the Netherlands is so vivid that made me feel so grateful and joyful being here. If I didn’t come to the Netherlands, I wouldn’t have the chance to meet so many friends from different countries, I wouldn’t have the chance been to Zambia and South Africa, and of course also other countries in Europe, and I wouldn’t have chance to meet so many great teachers who helped me to discover the wonders of urbanism which I haven’t thought about how planning can be so close to the daily life of people and how do managing and developing a country be able to bring the society toward a better tomorrow.

Metropolitan Park Development is not only a graduation project to I have done to complete my master study, but a seeking journey in terms of my interests in the vanishing landscape culture in Taiwan. It is also an exploiting process to me for a new perspectives inspired and cooperated from different urban planning approaches. Through the knowledge generated from the western academic disciplines and the wisdoms behind South Eastern Asia landscape context also gives me the light to rethink the role and potential of landscape in urban planning process to generate the new possibilities for a better development vision. Just want to share this discovery to you. Wish you will be enjoying in reading this booklet and also inspiring you in appreciating the beauty and culture of landscape simply next to our cities.
So many people I would like to thank for. My dear parents fully support my study abroad. My mentors, Diego is always so helpful, put up with my English and patiently corrected it and guided my project on track from the very beginning till the end. Eric lighted me up a new world in landscape design and helped me clarified the confusions I had during the process which let me stuck and couldn’t go further. John shared the knowledge in urban design and helped my project become integrity. I am so grateful the mentor team I have, without your guiding this project will never be done.

I also want to give thanks to Architect Lin Chih-Chen encouraged me to come to Europe and kindly spent time to discuss the project with me and let the colleague, Jean to help me reach certain information I needed for this project. Want to give thanks to my roommates, Lanhua and Yuantse helped me passing through many frustrations and shared so many joys together during our life in Oosteinde. Lulu, Tony, Vjohn, Yuchuan and Shihchi helped me to take the first hand photos of the site when I couldn’t go back to Taiwan. Wilson, Yingjing and Yoyo helped me to reach several meaningful information of Hsinchu Metropolis when I was almost giving up in collecting data and also abundant of prayers and encouragements from my friends, thanks for your supporting tha give me the strength to here.

Moreover, one of best places to me in the Netherlands, our faculty, Bouwkunde, gave me so many great memories during these two years master study, which was burned down one week before my P4 presentation.

Dear Lord, I am so grateful that so many wonderful people you given to me and accompanied me walking through the whole year. Without any of them, without You, I would never go so far. Especially, Hwachin, the angel, You brought to me in the end of the project who just like a perfect period to finish the chapter of my journey in the Netherlands and I am starting looking forward to begin next chapter!

Thank you Lord.
# Contents

## PART I: Introduction

**Summary/ Motivation/ Problem Statement**

## PART II: Project Overview

**Aim/ Methodology/ Design Approach/ Theoretical Underpinned/ Research & Analysis/ Research Questions**

## PART III: Project Development

**Metropolitan Vision/ Masterplan/ Local Interventions/ Design Performance**

## PART IV: Conclusion

**Evaluation/ Conclusion**

**Annex & Reference**
PART I
Introduction

I.1 Motivation

I.2 Problem Statements

Summary
Summary

This thesis is a specific design and research project of the in-between cities area in Hsinchu metropolitan area, Taiwan. The aim is looking for a sustainable development strategy for the metropolitan area where is under highly urbanization and conurbation process. The main approach is using the analysis of governmental plans, regional contexts and theories study to generate an alternative plan which is aiming to complement the weakness of the existing governance structure to offer a better vision for tomorrow. In the planning context of Taiwan today, landscape is not well performing as an active role and design element within the whole planning process and there is lacking of regional vision to the cities integration. For instance, the constitutive elements of landscape such as agriculture lands, risky area, and topography features were just urbanized and transformed rapidly into urban development land by the municipalities extension plans without careful considering the potential and values of them. In order to find out a better framework and vision for the Hsinchu Metropolitan Area, I tried to reinforce the status of landscape as a non-deserted organ of metropolis which plays as a platform to integration the multiple design approach from regional to city to neighborhood scale. I named this project as Metropolitan Park. It’s a vision for the Hsinchu Metropolis and it is aiming to fulfill the housing and recreational demands, to improve the ecological system and to preserve the precious society value behind the agriculture and natural landscape toward sustainable development. It has great potential for city development today when urban planners can reconsider the role of landscape and give it a balance weight to the urban development. Therefore, the wilder sustainable perspective might be opened toward a better harmonious tomorrow and this is what this project wants to performance.

Keywords: In-between cities area, sustainable development strategy, Metropolitan Park, landscape, urbanization
Fig. 1.2 Inevitable Urbanization, Taipei, Taiwan (Top)
Fig. 1.3 The Landscape Value is Gradually Vanishing Today in Taiwan (Bottom)
I.1 Motivation

The Vanishing Memory

“Nowadays, there are not many young people who would like to farm and the town is no longer flourishing as what it was looked like before.” (The Happy Rice, 2004)

The beauty and the vernacular value of landscape is gradually vanishing around the cities where are under highly urbanization pressure today in Taiwan. Taiwan located itself as one of the four fast growing economical entities in the East Asia which are called as Four Asian Tigers (Taiwan, Singapore, Hong Kong and South Korea). After WWII, the urbanization rate was extremely high during 1960s to 1990s accompanied by global trends. The population growth, industrialization and the migration from rural to city were the main phenomenon in this period. This rapid urbanization not only transformed the geographical landscape, but also serious influenced the eco-system when people hadn’t been aware of the importance. The shrinking agricultural economy and the migration of young generation from rural to the city were just the story telling how the vernacular austere rural lifestyle was gradually vanishing. (National Statistics Republic of China (Taiwan), 2000) A society value appeared unconsciously among the people during this rapid economical growth period, economy priority, earning more money and reach the higher education level are the ways to reach “a better life”. 
Behind this society value, it was not only influenced each Taiwanese households, but also can be found the reflections behind the urban planning process by national government.

The awareness of the importance of landscape value has not been considered till these days. When the term of landscape ecology has been coined by Carl Troll in 1939 (Troll, 1939) in Europe, there was almost no considerations of landscape value and ecological development in the Taiwan national government. It was after the Earth Summit 1992 in Rio de Janeiro, the voice of environmental protection and global transition was finally included into part of national concerns. Ten years later, in November 2002, National Council of Sustainable Development was finally established.

From the end of 2002 till now, it is just five years long, the government, urban planners, environmentalists and researchers are still looking for how to integrate and interpret the term of “sustainable development” into planning structure and system.

As an urbanism master student, I am eager to find out how urban planners can contribute their professions to this context and how can I use my master study to comprehend it and find out the potential solution for this rapid urbanization context? How the concept of “sustainable development” can be realized through urban planning and landscape design and the integration between different approaches.

When the beauty of landscape is longer next to the city, when the austere vernacular lifestyle is gradually forgotten by the young generation, do the planners have the ability to evoke and bring back the awareness of beauty and cultural value of landscape to the city dwellers? How does ecological development can be interpreted by the design approach? There are still dozens of questions I want to know, for this project, it is a start point for me to seek the answer of one of them.


Rapid Transforming Context in Taiwan

Fig. 1.7 Aging Population Mid-Prediction to 2051, National Statistics 2000

Fig. 1.8 Prediction of Population Declining to 2051, National Statistics 2000
Local Plan

Missing Link in Governance

National Level
- NSC National Science Council
- CEPD Council for Economic Planning and Development
- CPAMI Construction and Planning Agency Minister of the Interior

City-Region Level
- North Taiwan Region Plan (Second Overall Review, 2005-2021)
- Preservation Area
  - General Zoning Plan
  - Only Focus on Nature

City Level
- Metropolitan Perspective
- County(City) Comprehensive Development Plan
- Hsinchu City Municipality & Hsinchu County Municipality

Local Level
- This Project

Legend
- Institution
- No Legal Status
- Legislative Plan/This Project
- New Layer

Fig. 1.9 North Taiwan Region Nature Preservation Plan (Top-Left)
Fig. 1.10 Two Missing Links in Taiwan Planning Context (Top-Mid)
Fig. 1.11 The Draft of Tao-Chien Reiver Extension Plan of Hsinchu City (Top-Right)
Fig. 1.12 The Governance Structure of Tao-Chien River Extension Plan of Hsinchu City (Bottom)
I.2 Problem Statements

The Start Point

With the motivation I had mentioned in the previous chapter, I chose a site which is in-between cities area in Hsinchu Metropolitan Area where is under urbanization pressure because of the role of this region is defined as an ICT node in the North Taiwan Region which plays as the economy driving engine in Taiwan. At the south side of the Tao-Chien River, there is a city extension plan, The Draft of Tao-Chien River Extension Plan of Hsinchu City, (Bureau Urban Development Hsinchu City Government, 2007) (Fig. 1.11) for 30,000 populations till 2021 approval, but there is no metropolitan vision plan to integrate two sides of cities. (Fig. 1.12) From this plan I tried to study the governance structure in Taiwan planning context and I found out there are two crucial missing links in it.

Two Missing Links in Taiwan Planning Context

(1)Landscape
First, landscape is not considered as an indispensable factor. When the cities rapid expands their boundary these days in Taiwan, the agricultural and natural landscape are normally considered as the storage space for urbanization when the demands come to the cities. Large Urban Projects, such as high speed rail, station nodes, highways...etc. etc just built up and cut of the landscape into fragmental pieces. At meantime, the urban sprawl pressure penetrates into the semi-nature area, the continuous beauty of agriculture landscape surrounded the cities just be messed up by the disordering housings, small industries, and unwanted infrastructure constructions. These kind of displeasing scenes are easily found at the exiting borders of cities. Ecological development plan, social and cultural development at agriculture fields, and urban development are not well integrated by the governance structure, which only narrows the potential of the flexibility and sustainability of future development. This defected condition can be found by the analysis of the preservation plan in different levels. The preservation plan only daftly drew the zone needs to be preserved in the 2nd Comprehensive Review Draft Summary of Taiwan North Regional Plan 2005, (CPAMI, 2005) there is no clear consideration how to deal with the risky area and agriculture landscape in the design perspective, which the problem has not been solve since the 1st Comprehensive Review of Taiwan North Regional Plan 1985. (CPAMI, 1985)

(2)Regional Governance
Second, there is no regional governance and lacking of solid vision to integrate cities development. In the Taiwan governance structure, there is no metropolitan government to integrate the city development, though there is brief mentioned the role of each Metropolitan area in the 2nd Comprehensive Review Draft Summary of Taiwan North Regional Plan 2005. The extension plan of Hsinchu City exposes that cities are just busy on their own development without a cooperating relationship between the cities next to it. This situation is not only degrading the potential of each intervention and also might conflict to other cities’ plans in terms of regional integration.

At this rapid urban growth context, I believe that it is important to add these two elements into the planning process to fulfill the structure which can provide a more comprehensive approach and study to think about the sustainable development strategy for the future.
PART II

II.1 Aim ................................. 14
II.2 Societal & Scientific Relevance 16
II.3 Design & Research Questions 17
II.4 Design Approach .................. 18
II.5 Theoretical Underpinned .......... 20
II.6 Analysis ............................ 21
II.7 Design Approaches ............... 25

Project Overview
II.1 Aim

Sustainable Development Strategy

The aim of this project is designing a sustainable development design and strategy for the in-between cities area in Hsinchu Metropolis. (Fig. 2.1, Fig. 2.2) The project is showing an approach in looking for sustainable development in rapid transforming context.

In terms of sustainable, I used the definition from The United Nations 2005 World Summit Outcome Document, as economic development, social development and environmental development. But I also take culture diversity into account as the fourth layer which is further elaborated by The Universal Declaration on Cultural Diversity (UNESCO, 2001). According to these four aspects, I define the objectives more details in each of them.

(1) Economic Development
The economic feasibility is a crucial factor in terms of urban development. I don't want to neglect the demands of housings but want to find out a balance point to integrate the metropolis. Therefore, fulfill the housing demands and improving infrastructure in facilitating the metropolis structure at the in-between cities area has to be considered and planned. The low economy value of paddy field lands has to be transformed or improve the value by new programs.

(2) Environmental Development
Enhancing the focus of Ecological development in the regional planning which is traditionally neglected by planners. Not only the ecological performance and also the beauty of landscape should be developed and improve. The project is aiming to look for a new landscape framework to give itself as a platform for integrating the public and private investment to reach the best efficiency of development.

(3) Social Development
In terms of new urban extension, should be placed carefully and considering the whole metropolis development but not target on certain group only, such as high-skill immigrant. The variety of housings and improving the accessibility and connectivity of the recreational site toward urban fabrics will be one of the aims to share the quality space to more and more people.

(4) Culture Diversity: Vanishing paddy field culture, lifestyle, is a critc point to rapid transforming country. To create a harmonious plan between culture preservation and rapid urbanization will be very important to the culture diversity in long term development.

Metropolitan Perspective – Integrated Plan

In terms of the aim in design aspects, I am proposing a new Metropolitan Perspective which plays as an integration plan in different levels development with the landscape development as the base for the in-between cities area of Hsinchu Metropolis. (Fig. 2.1, Fig. 2.2) Transited scales is important because
of the plans of cities will take advantages from each other but not conflict with each other. Using and renewing the existing landscape is the most economic, efficiency, and also historical concerns way for development. These two focuses are also reflecting the ideas of mine in tackling with the main problems I am tackling with in Taiwan planning context.

Contents of Final Products

The final product of my project includes:

(1) Vision
Metropolitan Perspective/ Landscape Development included and served as the basis of the framework of the Vision

(2) Masterplan
Four Layers of Design Interventions:

• Water Structure
• Landscape Structure
• Nodes & Mobility
• Housing Development

Three Layers of Design Performance

• Phases
• Governance
• Stakeholders

(3) Local Interventions

II.2 Societal and Scientific Relevance

Social Relevance

When the culture and landscape identity are losing their values at the Hsinchu Metropolitan area, the dwellers live in the rural area are the first group suffered. Lacking of management strategies and considerations by governments, rural areas become the deserted lands for city development. Reconsider the role of landscape is not only aiming to create a new approach in Taiwan planning context, but trying to put more effort about alleviating the problems and needs from people live in the rural area who have less power in changing the development directions. A harmonious environment and society can be reached when the urban planning practice is no longer excluding the weakness groups and looking for equilibrium development strategies.

Scientific Relevance

The urban sprawl in Taiwan context is guided by the infrastructure constructions and specific economic zone developments. This project is tackling in managing the urban sprawl by integration of different sectors development by a metropolitan vision. Furthermore, landscape development is included and served as the crucial framework for the vision. This approach was limited considered due to the restrictions of urban planning regulations. Thus,
II.3 Design & Research Questions

The research questions are tackling with the two main problems I stated in this project at the very beginning, the two missing links in Taiwan planning context. The final products are expected to give certain perspective and ideas about how do I tackle with these two problems in order to provide a sustainable development vision.

The Role of Landscape

What is the potential roles and importance of landscape in terms of sustainability in the urban planning context today at the in-between cities area where are under highly urbanization pressure? What kind of strategy can be generated and defined if landscape is taken into account within urban planning approaches?

Regional Perspective

What will be a better regional perspective in guiding different scales interventions through the comprehension of regional context and theories study?
II.4 Methodology

The Methodology of this project is divided into four parts, Comprehension, Vision, Local Interventions and Evaluation. For more details descriptions please refer to the contents below and the figure at page 19. (Fig.2.7)

Comprehension

In order to answer my research questions through the final design product, the methodology I used was starting from the top-down comprehension to profile the Hsinchu Metropolitan area in two directions. First, understanding the urban structure and urbanization transition and second, comprehending the regional open space by de-layers the landscape to understand the context of landscape.

Vision

Based on the findings of regional survey and theory study, I raise a new vision for Hsinchu Metropolitan area. To study further about the Hsinchu City municipal draft of extension plan, I raised an integration vision at regional level. To translate the vision and the strategy into local interventions, landscape becomes the most important role in offering a basis framework to give them growth on it. Re-framing the landscape, give new definitions to different zones of in-between cities area and input multiple programs to sustain the development are made in the vision and strategy. This vision is aiming to improve the ecological development, to reach economy feasibility and enhance the social development especially in preserving the culture diversity. The vision, masterplan and strategy are the final product at this phase.

Intervention

For the interventions at local scale, I used the same logic of landscape framework to elaborate the design. The local intervention is an example in how to realizing the whole vision by more details and practical ways. The intervention chose one section of the masterplan to show how the plan will be realized and what might be the flexibility and potential for different development.

Evaluation

To conclude the project, evaluate the design by being tested toward the existing governmental plans con and pro. Also re-check the research questions I asked in the very beginning, then make the conclusion of whole project.
P1
Research Objective
Problem Statements

P2
Comprehension the Context
Research & Analysis
Define the City-Region Problems
Vision
1st Draft of Regional Strategy

P3
Regional Vision & Strategy

P4
Local Interventions
Finalizing the Design Project

P5
Evaluation
Revision

Fig. 2.7 Methodology
II.5 Theoretical Underpinning

In the rapid transforming context, one of the most important tasks is about urban management. When it is not possible to stop urbanization, a long term management strategy needs to be developed at metropolitan scale. There are many theories tackling with this issue. Through the analysis of the urbanization transition and the structure of the metropolitan area, I took the knowledge from the theories study below to develop a new strategy for Hsinchu Metropolis.

Green Belt

Define the Termination Boundary: In order to keep the site open as a buffer to both cities front toward the flooding risk and also preserving the paddy field landscape in the core position of Hsinchu Metropolitan Area, the green boundary has to be defined. (Howard, 1896 )The greenbelt can be kept as green only if there is a strong financial government to support this, but it will be hard to reach this goal just based on the Greenbelt strategy. (Kühn, 2002)

Green Heart

Keep the Heart Green for the flexibility of future and the ecological development. Because the Hsinchu Metropolitan area started from two mono-centric cities and gradually turned into a poly-centric structure, the transport system is under review, and it will be wise to define the role of it in a more clear way, also provide certain recreational value where people are easily access in the high dense region. (Bruke, 1966)

Greenways & Green Structure

To keep it green in long-term, the traditional single use of land is not possible to provide enough economy feasibility and that also causes the weak power to self-sustain. Therefore, create more meaning to the land, such as recreational functions, social programs, ecological functions and also the possibilities for transited usages to increase the flexibility of land use will have more possibility to sustain the landscape be kept. (Taylor, et al., 1995, Tjallingii, 2007)
II.6 Analysis

There are many study and research I have done. In this sector, it shows the most important context information for this project which is the main design tasks I am facing. For more mapping analysis, please check the last chapter of this booklet. (Annex)

Planning Context

- Lacking of regional governance and perspective (Fig. 1.11, Fig. 1.13)
- Lacking of concerns in risky area and agriculture landscape development in Urban planning Regulations. (Fig. 1.11, Fig. 1.13)

Historical Transition

- Inevitable urbanization driven by Hsinchu Science Park (ICT Node) and High Speed Rail Station Zone Development (2007) tends to totally urbanize the in-between site. (Fig. 2.10, Fig. 2.12)
- Two cities started from mono-centric structure toward conurbation process
- Canalization of the river

Design Tasks

(1) Housings
- The Attractiveness of migration in Hsinchu Metropolitan area is still on high, ICT Node, HSR, HSP. Cities are competing in building up new housings for high-income group which neglecting the existing vernacular elder generation group living at the site. (Fig. 2.13)
- Unwanted factories, industries disperse at the site just next to the paddy fields (Fig. 2.9)

(2) Infrastructure
- The borders of the site are highly connected to the city network, but the site is hard to access. (Fig. 2.11)
- Infrastructure cut off the continuity of the landscape, such as Expressway, railway track, main streets and dikes etc.

(3) Green
- There are high demands for recreation site and green space at Metropolitan area. The nature and semi-nature site have low recreational value with poor quality. The parks land per capita of Hsinchu Metropolis is only 6.5m² in 2007 comparing with Seoul 13m², Paris 12.2m² or London 25.3m² (2000) is much less.
- The farmers are a weak group in economy competitiveness which is hard to self-sustained and also without the priority in using water.

(4) Blue
- There is serious flooding risk at in-between sites caused by rainfalls. (Fig. 2.15)
Fig. 2.10 Historical Transition of Hsinchu Metropolitan Area (Top)
Fig. 2.11 The In-between Site is Highly Connected to the Metropolitan Area by Primary and Secondary Roads (Bottom)
Fig. 2.12 Inevitable Urbanization: Impression of Fully Urbanized the Riverfront 2050? (Top)
Fig. 2.13 Social Structure Transition (Bottom)
Current Situation  Phase One  Phase Two

Legend

- River
- 100mm
- 300mm
- 450mm
- 600mm

The area will be flooded when 24 hours rainfall reaching the height.
II.7 Design Approaches

The design approaches of the whole project I use are always refocusing the interventions back to the landscape elements. For using these approaches, first I have to study, define and qualify the potential constitutive elements of landscape, such as, river, historical irrigation aqueduct, small streams, level differentiations, paddy fields and its patterns, flooding risk area etc, etc. Second, I can use these elements as means to deal with the design tasks in different scale interventions and transforming the design concepts into the physical reality. A new framework has to be done to interlink the interventions of each scale. It is also a platform for each municipality develop their own city toward the metropolitan vision and also for neighborhood to work together to improve the quality of space and life in local scale. has to be considered and planned. The low economy value of paddy field lands has to be transformed or improve the value by new programs.

Reframing the Landscape (Metropolitan Scale)

(1) Horizontal Concept
Today, the landscape of in-between cities area is messed up by the factories, deserted farm lands, unwanted infrastructure and unfriendly riverfronts. In order to bring back the order of scenic landscape and the orientation of the site, a strategy in reframing is needed. The concept I developed is first selecting the potential line elements such as river, aqueducts, historical path, etc. Second, develop the potential sites along the lines to enhance the attractiveness of them. Third, interlink the site by slow speed perception connection based on the pattern of landscape to the Tao-Chien River and form the basis landscape framework of the area. (Fig. 2.14)

(2) Vertical Concept
The Tao-Chien River, agriculture lands and cities landscape are harshly divided by the infrastructure in the existing context. There is lacking of the relationship and perception at different types of landscape. To create the variety of space and the harmonious perception between water, green, city, the vertical concept gives the direction in how to bring the landscape quality from nature to the city and create certain variety of the beauty of new landscape topology in the in-between cities area. (Fig. 2.16)
Growing Based on Landscape (City Scale)

(1) Water Structure
To create a hierarchy in reframing the landscape, water is the most important layer I chose to start with. Re-organizing the water structure with the new wetland system builds up the basis layer of the landscape framework.

(2) Landscape Structure
The second layer green structure is developed based on the water structure. The renovation of green landscape starts from the lines of the structure to the planes of the whole site. Moreover, use the plantations to reinforce the feature of water network which can enhance the orientation and perception.

(3) Street Network
The third layer, integrate the urban function structure, urban fabric, city green and water structure with the renewal water and green structure. Define the important nodes and entrance. Give them functional meanings and hierarchy to create the mobility structure of the region.

(4) Housing Development
For the last layer, base on the previous three layers, Housing Development can be generated with certain landscape quality behind it. (Fig. 2.18)

Paddy Field Landscape Design (Neighborhood Scale)
For the local scale interventions, I use paddy field as the actor in playing continuous from the border to the river front. Create a beauty of transition from city to semi-nature to nature area which city dwellers can easily access and experience.

(1) Point
Use paddy field as a natural landscape element at the courtyard of new topology of border housing development.

(2) Line
Line concept is aiming to break up the barriers such as dikes or level differentiation and enhance the orientation parallel to the access path.

(3) Plane
Renew the paddy field landscape by removing the disturbing elements such as factories, irregular housings, and inharmonic infrastructure, etc. (Fig. 2.17)
PART III

Brief of Vision 30

III.1 Metropolitan Park Vision 32
   EOS 1 Vision 32

III.2 Masterplan 38
   EOS 2 Masterplan 38
   EOS 3 Water Structure
   EOS 4 Landscape Structure
   EOS 5 Nodes & Mobility
   EOS 6 Housing Development
   EOS 7 Stakeholders 45
   EOS 8 Governance
   EOS 9 Phases 46

III.3 Local Interventions 47
   EOS 10 Prototypes 47
   EOS 11 Functioning Map
Brief of Vision

Hsinchu Metropolitan Park

Character: Regional Perspective
Period: 2008-2025
Location: In between cities area, Hsinchu Metropolis, Taiwan
Population of the Project: 30,000~33,000
Area: 997 ha

Elements for Design:
Tao-chien River, aqueducts, paddy fields pattern, flooding risk area, topology, river, tradition courtyard houses, urban functions.

Key Developments of Plan:
Metropolitan Park, conurbation integration, housing development, ecological development, landscape preservation and renovation, social and cultural development.

Encounter in Hsinchu

These days, the Hsinchu metropolis has become one of the most attractive regions for high-skill immigrants. It is not because of how the beauty and life quality is better than other cities but the employee chances of Hsinchu Science Park specific for this group. When the people work on agriculture in Hsinchu City has decreased less than 1% of the whole city population in 2007. (Annex) The Hsinchu Metropolitan area is facing the serious problem of losing the cultural diversity where the vernacular landscape has be gradually transformed into the urban lands without doing effort on preserving and developing.

Encounter in Hsinchu Metropolis is a metropolitan park development vision at the most strategic location, the core position, of Hsinchu Conurbation which plays as an appealing front garden to the cities at both sides of Tao-Chien River. It is not only a “park” for people who can have a leisure walk, but a place where the beauty of culture, nature, city life encounter with each other. It is a place where you can easily access by foot or by bikes, where you would like to slow your pace to discover the beauty of the landscape. It is a place where you can discover the beauty of paddy field landscape and rice culture. It is a place where you can bring your family to visit and enjoy the sunshine in the Sunday afternoon, and might encounter the people from the other sides of river. It is a place where you can learn the how the nature and farmers shaped the landscape, how the people start to respect the nature and try to find a harmony way in developing every piece of land. It is a place teaching us appreciating the knowledge from history and facing the responsibilities of human being should take care the lands we received.

Hsinchu Metropolis

Population: 521,000
Density: 3830 pop./km²
Important Landscape: Tao-chien River, Paddy Field Landscape, Plain & Hills.
Fig. 3.1 Images of Hsinchu Metropolitan Park
III.1 Metropolitan Park Vision

The Framework of Vision Plan

There are eleven Elements of Strategy (EOS) in three scales interventions in within the Vision plan. First, the super-layer, Vision, structures the whole plan through a metropolitan perspective which gives the definition of the development priority and connotations in different regional zones and the termination boundary for urban extension. Second layer, masterplan shows how to implement the concept from the vision by new programs and intermediate scale zoning map. At this layer, the masterplan provides the instruction for two cities in working together in building up the water structure, green structure, infrastructure, and housing development toward the metropolitan vision. The third layer is about local interventions, which shows more details in how to develop and how the development functions. (Fig. 3.4)

EOS 1 Vision

EOS 1 Vision is a new vision in giving a new order and equilibrium development between city and nature. Reframing the landscape to guide the metropolitan development toward sustainability is the main approach. There are two factors in EOS 1, the New Connotation and Boundary Definition.

(1) New Connotation
Use what it is, renovate what it was, enhance what it will be. In the Metropolitan Vision, the plan aim to create a coherent green open landscape in the center of two cities which serves as a platform in integrating two cities development into one conurbation metropolis. The vision is aiming to enhance and to improve the spatial quality by re-
Current Situation

Metropolitan Park Vision

New Order

City First

Equilibrium Consideration

Fig. 3.5 EOS 1 Vision - New Connotation
focusing to the value of the significant existing landscape, such as the Tao-Chien River which plays as the important ecological elements in metropolitan area or the fragmental paddy field landscape with some traditional courtyard housings remained, which can be transformed into high recreational and social program area. It is more feasible in using the existing landscape to create new program than dramatically reshape the whole site. The three rings connotation also showing the sustainable development vision for the Hsinchu Metropolis. (Fig 3.5) Ecological development located at the core position started from the river zone to the semi nature area, social and cultural development at from the semi-nature area to the urban area, and the Economic development for the cities themselves which use the quality of inner rings to generate higher value to the cities. However, this new connotation needs a basis landscape structure to guide and integrate the further interventions, therefore, the design approach, Reframing the Landscape become the method I used to give certain guidance for how to realize the three rings connotation at Hsinchu Metropolis in transforming the deserted backyard into an easily orienting and appealing front garden. (Refer to 2-4 Design Approaches)

(2) Boundary Definition
In the Hsinchu Metropolis, there is a crucial problem that the in-between cities area is under highly flooding risk. The urbanization has transformed the land into impenetrate solid ground. With the lower topography of the site, once the rapid rainfall comes, the site will be easily flood. (Fig. 2.15) Through the study, there is a significance landscape element flows through the south which can be read as its importance of landscape features, the historical aqueduct. A part of the aqueduct is also the current boundary of Hsinchu City. It is one of the most important lines related to flooding risk border because of the 9m differentiation at two sides of aqueduct. Based on this finding I chose this aqueduct as the termination boundary of the Hsinchu City to manage the urban development not to build up the high dense program over it. At north side of river, I chose a stream to define the boundary of Chupei City. Therefore, the final scene of the boundary will be more logical and readable by through the landscape elements which can also give a new identity of the border of the cities. (Fig. 3.6, Fig. 3.7)
Fig. 3.6 Current Urbanization Situation of the Design Area
EOS 1 Vision

Legend

- Termination Boundary of Urbanization
- River/ Aqueduct
- Urbanized Area
- Urban Extension
- Urban Renewal Development
- Environmental & Social Development Priority
- Environmental Development Priority

Fig. 3.7 EOS 1 Vision-Boundary Definition
III.2 Masterplan

EOS 2 Masterplan

The EOS 2 Masterplan is the main sector of the vision plan which formed by other seven Elements of Strategy. There are four layers of design interventions: EOS 3 Water Structure, EOS 4 Landscape Structure, EOS 5 Nodes & Mobility and EOS 6 Housing Development, three layers for design performance: EOS 7 Governance, EOS 8 Stakeholders and EOS 9 Phases.

Four Layers of Design Interventions

(1) EOS 3 Water Structure
New water structure for water retention and purification which can sustain the demands of water from the metropolitan park. It also creates new recreational functions and accessibility for people. (Fig. 3.9)

- Naturalize the rivers and aqueducts banks
- Create wetland for water purification and water storage
- Structure the old water system and new water structure interventions
- Create water recreational site

(2) EOS 4 Landscape Structure
Renew the landscape, bringing back the vernacular culture beauty of rural lifestyle in Hsinchu metropolis. Create and develop new recreational and social program in the landscape structure. (Fig. 3.10)

- Build up the ecological island
- Forestation along the riverfront and water structure
- Build up agriculture parks along the border and cultural line where remains amount of traditional courtyard housings
- Build up new city parks in connecting the existing city parks and new agriculture parks
- Create the terrace landscape to shape a friendly perception in connecting from cities to riverfront
- Renew the agriculture landscape

(3) EOS 5 Nodes & Mobility
Create a new infrastructure framework of Metropolitan Park itself and also for the Hsinchu Metropolis. Three hierarchy and four types of entrances are defined to reinforce the metropolitan infrastructure network. (Fig. 3.11)

- Remove the railway track
- Remove the inharmonic roads
- Build up the new railway track connecting Hsinchu toward east
- Build up the primary road, secondary road and pedestrian/cycling route
- Creating facilities of new nodes, bus stations, light rail stations, and railway stations.

(4) EOS 6 Housing Development
Develop new topology of housings development with landscape elements, specific by paddy fields. Regenerate the old cities based on the framework
EOS 2 Masterplan

Legend

Fig. 3.8 EOS 2 Masterplan
EOS 3 Water Structure

Fig. 3.9 EOS 3 Water Structure
EOS 4 Landscape Structure

Legend

Fig. 3.10 EOS 4 Landscape Structure
EOS 5 Nodes & Mobility
EOS 6 Housing Development
EOS 5.1 Mobility

[Diagram showing mobility connections between Metropolis/ City Neighborhood, Functional Node, Transferring Transportation Node, Neighborhood, HMP Border Entrance, and HMP River Entrance.]

EOS 5.2 Nodes

<table>
<thead>
<tr>
<th></th>
<th>Name</th>
<th>Hierarchy</th>
<th>Metropolis Node</th>
<th>Transferring Transportation</th>
<th>Recreational Facilities</th>
<th>Possible Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Metropolis Entrance/Node</td>
<td>Metropolitan Scale</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Museum Commercial Centrality</td>
</tr>
<tr>
<td>2</td>
<td>Transferring Transportation Node</td>
<td>City Scale</td>
<td></td>
<td>✓</td>
<td></td>
<td>Public Transportation Station Bikes Rental Shop</td>
</tr>
<tr>
<td>3</td>
<td>Metropolitan Park Entrance</td>
<td>Neighborhood Scale</td>
<td></td>
<td></td>
<td>✓</td>
<td>Recreational Park Souvenirs Shop</td>
</tr>
</tbody>
</table>

Fig. 3.13 EOS 5.1 Mobility (Top)
Fig. 3.14 EOS 5.2 Nodes (Bottom)
build up by EOS 3 to EOS 5.

Low density traditional courtyard housing development
Low rise and low density housing development in the park site
New topology of mid-rise courtyard housing development at the border
Mixed topology of housing development for urban extension area
Artist village development

Design Performance

(1) EOS 7 Governance
In order to realize the project, a new board at metropolitan scale should be created. The consideration of risky area and agriculture landscape in this plan has fulfilled the missing linking of the landscape. But without governance at metropolitan scale, it will be much harder to realize. The railway track removing will be the most critical intervention in financing. Based on the governance structure, the national planning institution can also create a specific metropolitan plan in guiding the two cities development in a clearer way. Therefore, the national government will represent the most important role in realizing the plan. Without the support from national government, only some parts of the local interventions might be able to realized by the cities municipalities. (Fig. 3.15)

(2) EOS 8 Stakeholders
Ecological Development

Through the stakeholders interests analysis shows the water retention and wetland development are interested by most of different stakeholders. For the forestation and ecological islands development

EOS 7 Governance

Missing Link in Governance

Fulfilling the Missings

Fig. 3.15 EOS 7 Governance
the large enterprises have shown the interests in financing. But there are lacking of interests from private sector for the new water structure and bio-agriculture development. Therefore, the financing of these two will need strategies in realizing.

Social Development
Semi-nature recreational site development is the common interests for almost all different stakeholders. It can also bring the new financial income to the municipalities. This will be the first focal program to start with. For the art & cultural performance site program and recreational farm can bring positive image to the region. These two programs can be the promotion programs to bring the notices from city dwellers for the Metropolitan Park Development.

Economic Development
Housings development is the main financial income in reclaiming the site and makes the whole plan function. The strategy in developing the housing will be very crucial. (Fig. 3.16)

(3) EOS 9 Phases
There are four phases in realizing the plan. From 2008 to 2010 is the period for plan preparation and the construction is divided into three phases from 2010 till 2025. (Fig. 3.17)

### EOS 8 Stakeholders

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Ecological Development</th>
<th>Social Development</th>
<th>Urban Development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>New Water Landscape Structures</td>
<td>Water Retention &amp; Wetlands</td>
<td>Bio-agriculture</td>
</tr>
<tr>
<td>National Government</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hsinchu City Municipality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hsinchu County Municipality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Institution</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmentalist</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large Enterprises</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small &amp; Medium Enterprises</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Architects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-Income Group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cities Dwellers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local People</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eco-System</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

○ Very Interested ○ Interested

Fig. 3.16 EOS 8 Stakeholders
Construction Plan in General

(1) Phases I 2010-2015

Housing Development 100 ha
Park Development 18 ha
Wetland Development 60 ha
Forestation 10 ha
Primary Road 2km
Secondary Road 8km
Pedestrian Route/ Cycling Path 8km

(2) Phases II 2016-2020

Housing Development 120 ha
Park Development 30 ha
Wetland Development 22 ha
Terrace Development 10 ha
Forestation 80 ha
Social Housing Development 15 ha
Primary Road 5km
Secondary Road 20km
Pedestrian Route/ Cycling Path 20km

(3) Phases III 2021-2025

Housing Development 35 ha
Eco-island 12 ha
Forestation 80 ha
Renewing the Paddy Field Landscape 200 ha
Secondary Road 10km
Pedestrian Route/ Cycling Path 40km
Urban Regeneration 100 ha

III.3 Local Interventions

EOS 10 Prototypes

The prototypes intervention is selected from one section of the masterplan, with the EOS 11 Functioning Map will show how the masterplan can be realized in neighborhood scale. The section includes all different zones of the plan and the local images are also shown by the sketches. (Fig. 3.18, Fig. 3.19)

(1) EOS 11 Functioning Map
In the Functioning Map, each zone of it has certain regulations for developing and how to implement. The development is guided by the vision and masterplan, but the interim concept for each zone also provide certain flexibility to use the land for interim functions which can adapt the changing of the society. (Fig. 3.20, Fig. 3.21, Fig. 3.22) For more descriptions of each zone, please refer to Fig. 3.23 to Fig. 3.26.
EOS 9 Phases

Phases I
2010~2015
The beauty of first impression

Phases II
2015~2020
The beauty of accessibility

2008 2009 2010 2015

Plan Review Plan Preparation

Wetland Development along the borders
Naturalize aqueducts banks
Agriculture Park along the borders
Nodes along the borders & in the Cities

Wetland Development along inner lines
Naturalize Tao-Chien River banks
Re-structure the main water network
New Cities Park
Nodes the Tao-Chien River

The main connection from city to the borders
The first part of border housing development

The main connection from city to the riverfronts
Cultural & Social Zone housing development

Fig. 3.17 EOS 9 Phases, Legend Refers to Fig. 3.23 to 3.2
Phases III
2020~2025
The beauty of our front garden

Hsinchu Metropolitan Park
Encounter in 2025

2020

2025

Re-structure the sub-water network

Agriculture landscape renewal

Plantation in the site

Ecological Island Development

The sub-connections of the whole region

The third part of housing development

Removing unwanted housings in the site

Water Structure

Landscape Structure

Nodes & Mobility

Housing Development
EOS 10 Prototypes
Fig. 3.19 Local Images & Sections of EOS 10 Prototypes
EOS 11 Functioning Map

Fig. 3.20 EOS 11 Functioning Map
Fig. 3.21 Images of Prototypes
Fig. 3.22 Interim Concept

EOS 11.1 Interim Concept
<table>
<thead>
<tr>
<th>Zone</th>
<th>Prototypes Images</th>
<th>Regulations</th>
<th>Functions</th>
</tr>
</thead>
</table>
| River Zone         |                   | - Natural Development Priority  
                   - Accessibility to River Front from Urban Tissue  
                   - No Housing Development Allowance                  | Public Owns  
                   Invested by HSP  
                   Large Enterprises                                    |
| Wetland Zone       |                   | - Wetland Structure  
                   - Water Storage & Purification  
                   - 70% Seasonal Farming  
                   - 30% Forestation  
                   - Pedestrians and Bikers Access Only  
                   - No Housing Development Allowance                  | Public Owns  
                   Offer Individual Farmers for Seasonal Farming  
                   Invested by HSP  
                   Large Enterprises                                    |
| Agriculture Park   |                   | - Design of Paddy Fields Landscape  
                   - Recreational Use  
                   - GSI=5% for Recreational Housing/ L=2  
                   - Detached/ Semi-Detached House  
                   - Two stories maximum except landmark building | Public Owns  
                   Rent for Private Enterprise Management  
                   Local Participation                                     |
| Agriculture Zone   |                   | - Paddy Fields Landscape  
                   - Agriculture Use Only  
                   - Two stories maximum  
                   - GSI=1% for Housing/ L=2  
                   - Detached Farm House Only | Public Owns  
                   75% Rent for Private Farming Enterprise  
                   25 % Rent for Private |
| Nature Park        |                   | - Natural Development Priority  
                   - 40% Forestation  
                   - 30% Plain  
                   - 20% Wetland  
                   - 10% Recreational Site  
                   - Temporary Recreational Facilities Allowance       | Public Owns  
                   Invested by HSP  
                   Large Enterprises                                    |
| City Park          |                   | - Improving the Orientation and Connectivity to the HMP Entrance  
                   - Linking Itself to the Regional Green Framework  
                   - Temporary Recreational Facilities Allowance       | Public Owns |
| Artist Village Zone|                   | - The Design of the Housings Should Offer the Orientation to the sea  
                   - GSI=20% for 2-4 Stones Apartments/ L=4  
                   - Housing Topology Should Fit into the Paddy Field Landscape  
                   - Keep Certain Accessibility for Pedestrians and Bikers to pass through | 10% of Funding Should Invest in HMP Landscape Development |

**EOS 11.2 Regulations I**

Fig. 3.23 Regulations of Each Zone in Functioning Map I
<table>
<thead>
<tr>
<th>Zone</th>
<th>Prototypes Images</th>
<th>Regulations</th>
<th>Functions</th>
</tr>
</thead>
</table>
| Terrace                                 |                   | - Paddy Field Landscape Design  
- Accessibility for Pedestrians and Bikers  
- Agriculture Use  
- Function as Dike  
- No Housing Development Allowance | Public Owns Rent for Private Farming |
| Traditional Courtyard House Zone        |                   | - Traditional Courtyard House Only  
- Culture Recreational Program  
- Mixed Recreational and Residential Functions  
- Improving the Perception and Orientation of the Pedestrians and Cycling Paths from City to River | Private Owns 10% of Funding Should Invest in HMP Landscape Development |
| Social Agriculture Program Zone         |                   | - Land for Social Agriculture Program  
- Paddy Fields Landscape  
- Agriculture Use Only  
- Two stories maximum  
- GSI=1% for Housing, L=2  
- Detached Farm House Only | Private Owns 5% of Funding Should Invest in HMP Landscape Development |
| Social Agriculture Program Housing Zone |                   | - Land for Social Agriculture Program Housing Development  
- GSI=30% for 2-4 Stories Traditional Apartment or semi-detached House, L=4  
- 80% for Public Green, or Agriculture Uses | Private Owns 5% of Funding Should Invest in HMP Landscape Development |
| Border I Housing Zone                   |                   | - New City Border Housing Development  
- Middle-Rise Modern Courtyard House  
- GSI=30% for Housing, FSI=180%  
- Paddy Field Courtyard  
- Commercial Function at Ground Floor along the Main Road  
- Design of Housing Should Improve the perception to HMP | Private Owns 10% of Funding Should Invest in HMP Landscape Development |
| Border II Housing Zone                  |                   | - Urban Renewal  
- High-Rise or Middle-Rise Apartment  
- GSI 30% for Housing, FSI=210%  
- Commercial Function at Ground Floor along the Main Road  
- Design of Housing Should Improve the perception to HMP | Private Owns 10% of Funding Should Invest in City Greenery Development |

**EOS 11.2 Regulations II**

Fig. 3.24 Regulations of Each Zone in Functioning Map II
<table>
<thead>
<tr>
<th>Zone</th>
<th>Prototypes Images</th>
<th>Regulations</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Entrance</td>
<td><img src="image1" alt="Image" /></td>
<td>-City Function Node, such as recreation node or commercial node &lt;br&gt;-City Landmark &lt;br&gt;-Public Transportation Stop &lt;br&gt;-Strong identity</td>
<td>Public Owns Private Investment</td>
</tr>
<tr>
<td>Entrance Park To River</td>
<td><img src="image2" alt="Image" /></td>
<td>-The Routes Connect to this Entrance Should Keep Certain Perception toward the River &lt;br&gt;-Recreational Facilities around it</td>
<td>Public Owns Private Investment</td>
</tr>
<tr>
<td>Entrance City to Park</td>
<td><img src="image3" alt="Image" /></td>
<td>-Using Landscape Design to Create a Specific Image For City Border &lt;br&gt;-Recreational Facilities around it</td>
<td>Public Owns Invested by Private Enterprises which Manage the Park Next to the Entrance</td>
</tr>
<tr>
<td>Transfering Transportation Node</td>
<td><img src="image4" alt="Image" /></td>
<td>-Public Transportation Node/ Bus, Potential for Lightrail Stop in the Future &lt;br&gt;-Offering Bikes Rental Function</td>
<td>Public Owns Private Investment</td>
</tr>
<tr>
<td>Highway</td>
<td><img src="image5" alt="Image" /></td>
<td>-Improving the image of it &lt;br&gt;-Soften the barrier image of it &lt;br&gt;-Lighting Design &lt;br&gt;-Landscape Design</td>
<td>Public Owns</td>
</tr>
<tr>
<td>City Primary Road</td>
<td><img src="image6" alt="Image" /></td>
<td>-Improving the Road Image by Street Trees, Plants and Lighting Design &lt;br&gt;-Improving the Connectivity and Safety for Pedestrians and Bikers to cross the road</td>
<td>Public Owns</td>
</tr>
<tr>
<td>National Railway</td>
<td><img src="image7" alt="Image" /></td>
<td>-Improving the Connectivity and Safety for Pedestrians and Bikers to cross the railway</td>
<td>Public Owns</td>
</tr>
</tbody>
</table>

EOS 11.2 Regulations III
<table>
<thead>
<tr>
<th>Zone</th>
<th>Prototypes Images</th>
<th>Regulations</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Urbanized Area</td>
<td>![Image]</td>
<td>- Urban Regeneration - Restructure the HMP Landscape framework into City Struttrue</td>
<td>Private Owns 10% of Funding Should Invest in City Greenery Development</td>
</tr>
<tr>
<td>Future Lightrail Proposing Route</td>
<td>![Image]</td>
<td>- Improving the Connectivity and Safety for Pedestrians and Bikers to cross the railway</td>
<td>Public Owns</td>
</tr>
<tr>
<td>Primary Perception Route</td>
<td>![Image]</td>
<td>- Bikers and Pedestrians Priority - Street Plantation Design - Follow the landscape patterns, such as aqueducts, paddy field or topography</td>
<td>Public Owns</td>
</tr>
<tr>
<td>Secondary Perception Route</td>
<td>![Image]</td>
<td>- Pedestrians Priority - Street Plantation Design - Follow the landscape patterns, such as aqueducts, paddy field or topography</td>
<td>Public Owns</td>
</tr>
<tr>
<td>Street</td>
<td>![Image]</td>
<td>- Bikers and Pedestrians Priority - Street Design - Improving the Safety and Connectivity of Cycling lane</td>
<td>Public Owns</td>
</tr>
<tr>
<td>Sub-Street</td>
<td>![Image]</td>
<td>- Pedestrians Priority - Street Design</td>
<td>Public Owns</td>
</tr>
<tr>
<td>Aqueduct</td>
<td>![Image]</td>
<td>- Soften the Banks of the Aqueduct - Increase the Original Capacity of Water and Connect Itself to the Water Structure</td>
<td>Public Owns</td>
</tr>
</tbody>
</table>

**EOS 11.2 Regulations IV**
PART IV

IV.1 Evaluation 60
IV.2 Conclusion 63
IV.1 Evaluation

Compare with the Hsinchu City Extension Plan (HCEP) with Hsinchu Metropolitan Park Development Plan (HMP), there are some conclusions can be summarized. (For more details, please refer to Fig. 4.1, Fig. 4.2)

For the Hsinchu City Extension Plan is the traditional urban planning approach based on one city development and Hsinchu Metropolitan Park Development Plan is a new approach in Taiwan planning context that cities work together to generate a regional vision and perspective. It will be more complex in realization for HMP because the multiple stakeholders are involved, but also a more powerful plan might be able to be generated.

Below, I evaluate HMP with HCEP based on the four definitions of sustainability I used in Chapter 2.1 Aim, economic development, environmental development, social development and culture diversity.

(1) Economic Development
In terms of economic development, both of these two plans fulfill the demands of housing development, but the new images from the new plans have different impact in contributing the identity to the metropolis. The HMP shares more benefits from the development to both cities, but HCEP is only part development of Hsinchu City which contributes less identity in the metropolitan scale and it is developed more based on strengthening the mono-centric city structure. It will definitely bring certain income and benefit to Hsinchu City municipality but for the Hsinchu metropolis, it has limited effects to contribute in integration of both cities development.

(2) Environmental Development
In terms of environmental development, HMP plays a crucial role and an indispensable active role in the Hsinchu Metropolis. HMP remains certain open space and landscape for the nature works in it and focuses on remain and improve the quality of ecological system. The wetlands development is also a more harmonious way in tackling the flooding problem which can also create a self-sustain water system for the agriculture economy at the in-between cities area. The beauty of the landscape and culture will be more sustainable.

(3) Social Development
In terms of social development, HSEP doesn’t mention too much about it. For the HMP, it relocates the welfare from the cities to the semi-nature area where is closely attached the city. This is the best location for social programs development where is between just society and nature, but not segregate the people far away from the society. The protection of the in-between cities area is also showing the value behind the metropolis, that people can experience by visit and traveling from cities to river and encounter with the people live in there.

(4) Culture Diversity
In terms of cultural diversity, HSEP worsen the situation by creating mono-topology of low and
mid-rise housings targeting on high-income group only. The original dwellers in the rural area will be forced to move out of the region and the vanishing culture value in the existing semi-nature area will be just worsening. For HMP, improving the culture diversity is one of the basis objectives to reach. The cultural diversity will keep bring the vitality to Hsinchu Metropolis in functioning.

<table>
<thead>
<tr>
<th>Regional Vision</th>
<th>Hsinchu City Extension Plan</th>
<th>Hsinchu Metropolitan Park Development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>An alternative of quality housing image in Hsinchu City</td>
<td>A harmonious beauty between landscape and city development within Hsinchu Metropolitan area</td>
</tr>
<tr>
<td>Identity</td>
<td>New neighborhood image to Hsinchu City</td>
<td>Bringing the image of Hsinchu Metropolis into national scale</td>
</tr>
<tr>
<td>Regional Structure</td>
<td>Enhancing the mono-centric structure of Hsinchu City</td>
<td>Integrating and Improving the conurbation process</td>
</tr>
<tr>
<td>River</td>
<td>Leisure recreation development</td>
<td>Ecological Development Priority</td>
</tr>
<tr>
<td>Flooding Risk</td>
<td>Higher expense in flooding risk protection and still under high risk</td>
<td>Lower risk and more natural way in flooding protection. Use the flooding to contribute in water storage</td>
</tr>
<tr>
<td>Agriculture Landscape</td>
<td>Urbanized majority</td>
<td>Remain majority, enhance the economy feasibility</td>
</tr>
<tr>
<td>Environmental Development</td>
<td>Less concerns and less contribution at regional level</td>
<td>Easing the water containment and shortage problems at regional level</td>
</tr>
<tr>
<td>Social Development</td>
<td>Less concerns of Social Development</td>
<td>Giving the welfare program a better environment to locate the institutions and the variety of housing topologies also target on more diverse groups</td>
</tr>
<tr>
<td>Culture Diversity</td>
<td>Less concerns of traditional courtyard housings</td>
<td>Renew the traditional courtyard neighborhood and paddy field landscape with new recreation and social programs</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Worsen the traffic congestion because of one strong centrality development</td>
<td>Improve the network city’s structure and enhance the efficiency of public transportation and potential of usages</td>
</tr>
<tr>
<td>Recreational Value</td>
<td>New extension neighborhood has higher enjoyment of recreational site</td>
<td>Larger semi-nature site for the people live in Hsinchu Metropolis</td>
</tr>
<tr>
<td>Leisure Access</td>
<td>Shorter distance in agriculture landscape area</td>
<td>Variety and longer route and choice of cycling route well connected to cities border</td>
</tr>
<tr>
<td>Economic Development</td>
<td>City works on its own</td>
<td>Cities work together</td>
</tr>
</tbody>
</table>

Fig. 4.1 Comparison Between Governamental Plan & Metropolitan Park Development
<table>
<thead>
<tr>
<th>Hsinchu City Extension Plan</th>
<th>Hsinchu Metropolitan Park Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plan</strong></td>
<td>![Plan Image]</td>
</tr>
<tr>
<td><strong>Area</strong></td>
<td>![Area Image]</td>
</tr>
<tr>
<td><strong>697 ha</strong></td>
<td><strong>997 ha</strong></td>
</tr>
<tr>
<td><strong>Main Stakeholders</strong></td>
<td>Hsinchu City Municipality</td>
</tr>
<tr>
<td></td>
<td>National Planning Institution</td>
</tr>
<tr>
<td></td>
<td>Hsinchu City Municipality &amp;</td>
</tr>
<tr>
<td></td>
<td>Hsinchu County Municipality</td>
</tr>
<tr>
<td><strong>Aim of Final Product</strong></td>
<td>A New Identity Extension Zone of</td>
</tr>
<tr>
<td></td>
<td>Hsinchu City</td>
</tr>
<tr>
<td></td>
<td>Low-Mid Rise Riverfront Quality</td>
</tr>
<tr>
<td></td>
<td>Housings for 30,000 populations</td>
</tr>
<tr>
<td><strong>Realization</strong></td>
<td>Easier be realized by one municipality</td>
</tr>
</tbody>
</table>

| **Regional Vision**           | ✓                                  |
| **Environmental Development** | ✓                                  |
| **Social Development**        | ✓                                  |
| **Culture Diversity**         | ✓                                  |
| **Economic Development**      | ✓                                  |
| **Recreational Value**        | ✓                                  |
| **Flooding Risk**             | ✓                                  |
IV.2 Conclusion

For the problems I stated in the Chapter 1-3, there are two missing links in Taiwan planning context, Landscape and Regional Perspective. In the rapid transforming context, landscape is less being considered by the national government. Moreover, the missing link of regional perspective causes the developments are lacking of integrated vision between different stakeholders and planning sectors. Landscape value is only suffering behind this context. It will be too late until the day when people are awakened when the vernacular lifestyle and the beauty of landscape are no longer exists around our neighborhood, our cities.

These two missing links are definitely crucial to Taiwan future development. For Hsinchu Metropolitan Park Development, it tried to start the research and design based on these two missing links. The evaluation of the plans has shown Hsinchu Metropolitan Park Development Plan can bring the higher quality and higher influence to the Hsinchu Metropolis toward sustainable development.

Without carefully considering these two missing links and without placed these two factors at right position in the governance, the degrading of the society can be expecting. It might not degrade the economy competitiveness in the short term, but the quality of environment and society will definitely worsening in long term.

There are great opportunities for the urban development in Taiwan, if it can build up the regional governance and includes the landscape development as an indispensable actor to drive the plans implementation from metropolis to city to our neighborhood, the more beautiful and harmonious tomorrow will never be just a dream.

<table>
<thead>
<tr>
<th>Plan</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Area</td>
<td></td>
</tr>
<tr>
<td>Main Stakeholders</td>
<td></td>
</tr>
<tr>
<td>Aim of Final Product</td>
<td></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>697 ha</td>
<td>997 ha</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hsinchu City Municipality</th>
<th>National Planning Institution Hsinchu City Municipality &amp; Hsinchu County Municipality</th>
</tr>
</thead>
<tbody>
<tr>
<td>A New Identity Extension Zone of Hsinchu City Low-Mid Rise Riverfront Quality Housings for 30,000 populations</td>
<td>New Identity for Hsinchu Metropolis Metropolitan Park Development For 30,000 populations or more</td>
</tr>
</tbody>
</table>
Annex & Reference
City Profile

- Area: 104,096 km²
- Population: 3,969,983
- Density: 3,811.55 km²
- Urbanization: 79.9% (2005)
- Unemployment: 4.1% (2006)
- District: 3 (East, North, and Hsinshang)
- Weather: Subtropical monsoon zone
- Longitude: 120.58°E
- Latitude: 24.48°N

The comparison of computers number per hundred households in North Region:

- 1998: 20
- 1999: 30
- 2000: 40
- 2001: 50
- 2002: 60
- 2003: 70
- 2004: 80
- 2005: 90

Topography:
- Plain < 100m
- Hill 100 - 1000m
- Mountain > 1000m

- Hsinchu City
- Taoyuan City
- Hsinchu County
- Taoyuan County
- Hsinchu City Government
- Taoyuan City Government
- Taoyuan County Government
- Hsinchu County Government

Fig. 5.1 Regional Survey - Hsinchu City Profile 29/09/2007
Fig. 5.2 Regional Survey - Three Steps Analysis
Fig. 5.3 Regional Survey - Density + Infrastructure Network
Fig. 5.4 Regional Survey - Current Land Use Plan
Fig. 5.5 Regional Survey - Land Use Plan in 2021
Fig. 5.11 Project - Relocation of Railway Track in Hsinchu Metropolis (Before, Top)
Fig. 5.12 Project - Relocation of Railway Track in Hsinchu Metropolis (After, Bottom)
City Infrastructure Network
Greenery Network

Semi-Urban Network

Main Recreational Entrances

High Flooding Risk Area

Regulated Housing Development

Seasonal Farming
Wetland
Water Retention
Water Purification
Orientation Landscape
Scenic Site
1. Tracing the existing paddy field patterns

2. Highlight the most significant lines of pattern

3. Grouping the landscape

4. Highlight the urbanized area

5. Simplify the urbanized area into points and lines

6. Mapping Step 3 & Step 5

7. Input the definition color based on Vision

8. Remove the unwanted elements

Fig. 5.15 Design Approach - Tracing the Historical Pattern of Paddy Field, New Landscape Grouping Methodology
Reference

1st Comprehensive Review of Taiwan North Regional Plan 1985, Construction and Planning Agency Ministry of the Interior, Taipei


2005 World Summit Outcome Document, World Health Organization, 15 September 2005


Metropolitan Park Development

A Sustainable Development Strategy for the In-Between Cities Area in Hsinchu Metropolis

Globalization Studio
MSc Urbanism 1326082
Mutien Chen, 24/06/2008 P5 Presentation
mutien@gmail.com
For Hsinchu Metropolis

From a Deserted Backyard to an Appealing Front Garden
Vanishing Culture & Landscape

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008
In-between Cities Area of Hsinchu Metropolis

(ICT Nodes in NTR)
Populations: 521,000
Density: 3830 pop./km²

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008
Low Attractiveness Riverfront Development
Low Accessibility to the Riverfront
Contamination of Factories

-Just next to the rice people eat
Inharmonious Infrastructure Constructions
Historical Irrigation Aqueduct
Lower Ground – Flooding Risk Area

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008
Deserted Traditional Courtyard Housing
Although the site is not so beautiful today, does it have any possibilities to bring back the beauty of landscape to Hsinchu Metropolis?
Encounter
Metropolitan Park Development
at
Hsinchu Metropolis
Outline

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion
1. The Start Point
1.1 Hsinchu City Tao-chien River Extension Plan (Governmental Plan)

**Site Location**

**Current Situation**

**Extension Plan (Red & Yellow, Urbanized Zone)**

**2021**

- 30,000 populations
- Quality Waterfront Ecological Residential Zone
- City at north hasn’t defined a clear plan for extension
1.2 Problems

(1). Cities are busy on their own development, No Metropolitan Vision

(2). Landscape and Culture Development are not well considered in the plan
1.3 Design & Research Questions

The Role of Landscape

What is the potential roles and importance of landscape in terms of sustainability in the urban planning context today, specifically at the in-between cities area?

Regional Perspective

What will be a better Metropolitan Perspective in guiding different scales interventions?
2. Project Overview

Metropolitan Park Development
2.1 Aim - An Integration Plan Toward Sustainability

- Culture Diversity
- Environmental Equilibrium
- Social Development
- Economic Feasibility
2.2 Final Products

(1). Vision / Metropolitan Scale
(2). Masterplan / City Scale
(3). Prototypes / Local Scale

EOS 1 Vision
Termination Boundary of Urbanization

EOS 2 Masterplan
Reframing the Landscape
Restructure the Conurbation by Metropolitan Park

EOS 10 Prototypes
Implementation of Masterplan in Local Scale
What is the Methodology I used?
2.3 Methodology

Comprehension

Vision

Interventions

Evaluation
2.4 Design Approaches Principles

Always Re-Focus on Landscape

1. Recognition the landscape
2. Reinforce the original features
3. Remove the unwanted
4. Restructure the landscape
5. Interaction & Integration between cities and landscape
6. Using Paddy Field as an interaction element in local design
What Support This Project?
2.5 Comprehension

Regional Analysis
Conurbation Vision is needed
Highly recreational demand
High flooding risk

Site Analysis
Poor accessibility
Landscape quality is not attractive
Under Highly Urbanization Pressure
Culture and Landscape Preservation Strategy Needed

Neighborhood
The farmers are hard to self-sustain
Water Shortage

Legend
River
100mm 300mm 450mm 600mm
Thre area will be flooded when 24 hours rainfall reaching the height
2.6 Theoretical Framework

Greenbelt (Howard, 1896)
Urban sprawl management

Green Heart (Burke, 1966)
Ecological Development for Poly-centric Structure conurbation, Flexibility land for adapting future change

Greenways (Little, 1990)
Multiple Functions of Landscape

Seasonal Farming & Care Farm (Van Elsen, et al., 2006, Palang, et al., 2007)
Multiple Functions of Landscape / Social Development
3. Project Development

Vision
Masterplan
Prototypes
EOS 1 Vision

Encounter at Hsinchu Metropolitan Park
EOS 1.1 Vision - New Connotation

An indispensable Organ of Hsinchu Metropolis
EOS 1.2 Vision - Urban Boundary Definition

Legend:
- Termination Boundary of Urbanization
- Urbanized Area
- Environmental & Social Development Priority
- Urban Renewal Development
- River Aqueduct
- High Speed Rail

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion
1.3 Reframing the Landscape/Variety & Interaction

Current Situation

Phase One

Phase Two

Legend
- Urban
- Semi-Urban
- Nature
- Semi-Nature
- Urban

New Definition of City Boundary
- Ecological Development
- Re-organize the Landscape

Re-Design Barriers
- New Interventions
- Ecological Recreation

Urban Regeneration

Urban

Semi-Urban
- Nature
- Semi-Nature
- Urban

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008
Hsinchu Metropolitan Park Development
Strategic Plan Framework

EOS 2 Masterplan

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008

Metropolitan Level
- Current Condition
- Theory Study
- Comprehension of Context

City Level
- Water Structure
- Landscape Structure
- Nodes & Mobility
- Housing Development

Neighborhood Level
- Prototypes of Possible Design Interventions
- Functioning Map

Horizontal Framing the Site
Vertical Vary Attraction

Main Concepts
- New Connotation
- Urban Boundary Definition
- New meanings of Landscape in Metropolis

EOS 1

EOS 2

EOS 3

EOS 4

EOS 5

EOS 6

EOS 7

EOS 8

EOS 9

EOS 10

EOS 11

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion
EOS 5 to 8 Four Layers Interventions

EOS 3 Water Structure

EOS 4 Landscape Structure

EOS 5 Nodes & Mobility

EOS 6 Housing Development
EOS 7 Nodes & Mobility

Legend

<table>
<thead>
<tr>
<th>Name</th>
<th>Hierarchy</th>
<th>Metropolis Node</th>
<th>Transferring Transportation</th>
<th>Recreational Facilities</th>
<th>Possible Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan Entrance</td>
<td>Metropolitan Scale</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>Museum, Commercial Centrality</td>
</tr>
<tr>
<td>Transferring Transportation Node</td>
<td>City Scale</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>Public Transportation Station, Bikes Rental Shop</td>
</tr>
<tr>
<td>Metropolitan Park Entrance</td>
<td>Neighborhood Scale</td>
<td></td>
<td>●</td>
<td>✓</td>
<td>Recreational Park, Restaurant, Souvenirs Shop</td>
</tr>
</tbody>
</table>
EOS 10 Prototypes
EOS 10 Prototypes

Paddy Field Design – Point, Line & Plane
EOS 10 Prototypes

Flexibility - Interim Characters of Paddy Field
EOS 11 Functioning Map

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion
A Day Trip at Hsinchu Metropolitan Park
Metropolitan Park Development

Globalization Studio, Mu-Tien Chen 24.06.2008

1. The Start Point  
2. Project Overview  
3. Project Development  
4. Conclusion
Hsinchu Metropolitan Park Development
Strategic Plan Framework

References
- Current Consultation
- Theory Study
- Comprehension of Context

Vision
- EOS 1
  - New Connotation
  - Urban Boundary
    - Definition

Main Concepts
- New meanings of Landscape in Metropolis
  - Horizontal - Framing the Site
  - Vertical - Variety Attraction

Metropolitan Level

Master Plan
- EOS 2
  - Water Structure
  - Landscape Structure
  - Nodes & Mobility
  - Housing Development

City Level
- EOS 3
  - EOS 4
  - EOS 5
  - EOS 6

Neighborhood Level
- EOS 7
- EOS 8
- EOS 9

Prototypes of Possible Design Interventions
- Functioning Map

How Does It Work?

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion
EOS 7 Governance

National Level/
North Taiwan Region Plan

City-Region Level

City Level/
City Plan

Local Level
Urban Plan

Risky Area
Nature Preservation
Ecological Development
Cultural Value

Risky Area
Nature Preservation
Cultural Value
Ecological Development

Missing Link in Governance

National Level
NSC
National Science Council
CEPD
Council for Economic Planning and Development
CPAMI
Construction and Planning Agency Minister of the Interior

North Taiwan Region Plan
(Second Overall Review), 2005-2021

Preservation Area
General Zoning Plan
Only Focus on Nature

Flooding Risk Research Report

City-Region Perspective

County/City Comprehensive Development Plan

Hsinchu City Municipality &
Hsinchu County Municipality

Urban Plan
Non-urban Land Use Plan
National Park

Legend
Institution
No Legal Status
Legislative Plan/
This Project
New Layer

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion

Metropolitan Park Development
Globalization Studio, Mu-Tien Chen 24.06.2008
## EOS 8 Stakeholders

### Ecological Development
- New Water Landscape Structure
- Water Retention & Wetlands
- Bio-agriculture
- Ecological Island
- Forests
- Semi-Nature Recreation Site
- Art & Cultural Performance Site
- Care Farm
- Culture Education Recreational Farm
- Housing Development
- Infrastructure Construction
- Cultural Housing
- Dike House

### Social Development
- Very Interested
- Interested

### Urban Development

<table>
<thead>
<tr>
<th>National Government</th>
<th>Hsinchu City Municipality</th>
<th>Hsinchu County Municipality</th>
<th>Research Institution</th>
<th>University</th>
<th>Environmentalist</th>
<th>Developers</th>
<th>Large Enterprises</th>
<th>Small &amp; Medium Enterprises</th>
<th>Architects</th>
<th>High-Income Group</th>
<th>Cities Dwellers</th>
<th>Local People</th>
<th>Farmers</th>
<th>Eco-System</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Metropolitan Park Development

Globalization Studio, Mu-Tien Chen 24.06.2008

1. The Start Point
2. Project Overview
3. Project Development
4. Conclusion
EO9 Phases

Phase I 2010~2015

Phase II 2016~2020

Phase III 2021~2025

Encounter at Hsinchu Metropolitan Park 2025
4. Conclusion
Evaluation & Conclusion
Q & A