



2025

# GREEN CITY Chiang rai



9-13/02/2025



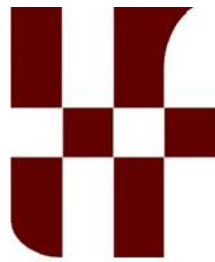
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8AIPH 9 SDGs



OIA  
KMITL



H A R C . A S I A

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## **Cultural Ethnobotany Coexistence Between Humans and Trees: Birth of a New Life**

Cultural ethnobotany, the traditional knowledge of using plants for survival, plays a key role in developing Green Cities. Human life has always depended on nature, particularly plants, and this indigenous wisdom is crucial for community survival. By integrating this knowledge with modern urban planning, cities can create sustainable green spaces that promote environmental health, community well-being, and ecological balance. This approach strengthens the connection between people and nature, while also preserving cultural heritage and fostering long-term resilience in urban development.

# CHIANG RAI GREEN CITY 2025

Nature Cultural  
& City Life

## CHIANG RAI GREEN CITY Preparation Meeting for the AIPH International Green City Conference, 2025

AIPH organises regular Green City conferences to keep our members, partners, and supporters up to date on Green City developments. Held in different regions around the world, and focussing on specific aspects of urban greening, these conferences provide a forum for ornamental producers, business in the supply chain, landscape practitioners, and leading authorities to interact and learn about the latest trends and developments in the science and practice of living green in urban environments.

2025 International Conference (AIPH International Green City Conference, 2025) of the International Association of Horticultural Producers (AIPH), which will be an International event. Corresponding to Thailand's large-scale exhibition is the World Horticultural Expo. Udon Thani Province 2026 and Nakhon Ratchasima Province 2029 to find ways to support the Chiang Rai Green City Conference 2025 to achieve its goals according to the next objective.

life has depended on nature since ancient times, mainly on plants. Learning to use plants for survival, passed down through generations, is known as indigenous wisdom, crucial for communities' survival.

### 8AIPH 9 SDGs



# 2025 GREEN CITY CHIANG RAI

## Cultural Nature & City Life



**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Prof. Dr. Vanchai Sirichana**  
Chairman of Mae Fah Luang University

"Mae Fah Luang University: Green journey from its past to the present"



**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Kotchakorn Voraakhom**  
Landscape Architect

"Nature-Based Solutions to Increase Urban Adaptability"

**Conference  
Cultural Nature**  
Coexistence Between Humans and  
Trees : Birth of a New Life  
**Chiang Rai  
Thailand**

**keynote  
speaker**



**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Assoc. Prof. Surasak Kangkhao**  
King Mongkut's Institute of Technology Ladkrabang  
Faculty : Heritage and Planning Community  
National Chulalongkorn University, Bangkok, Thailand

"Shaping the Future of Ecological Urbanization  
through hidden Truths"



**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Prof. Dr. Jakob Brandtberg Knudsen**  
Dean of Architecture at the Royal Danish Academy

"Architectural education enriched our discussions on  
urban development and sustainable design practices"




**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Prabhakorn Vadanayakul**  
President : Architect Council of Thailand  
National Architectural Institute

"Sustainable Urban Development and Green  
Innovation: The Wang Chan Project by InEEC Rayong"



**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Asst. Prof. Perrine Hamel**  
Asian School of the Environment, Nanyang  
Technological University, Singapore

"Low cost options for city greening: from  
the South East Asia perspective"



**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Prof. Emeritus Dr. Geoffrey A. Cordell**  
Natural Products Inc., Evanston, IL 60201, USA and College of  
Pharmacy, University of Illinois, Champaign, IL 61810 USA

"Exploring and Applying Ecopharmacognosy to  
Promote Green City Development and Sustainable  
Natural Resource Use"



**GREEN CITY CHIANG RAI 2025**

**Keynote Speaker  
Green City Conference**

**Mr. Felix Loh**  
CEO Gardens by the Bay Singapore

# 2025 GREEN CITY CHIANG RAI

## Cultural Nature & City Life

Planning for sustainable living is essential for our past, present, and future. Our ancestors' wisdom in geography and resource management created thriving cities rich in natural resources, an absolute truth that underscores the importance of sustainable practices. Today, we must continue learning from the past to maintain a strong connection with nature. This connection is crucial for our survival and the planet's, a relative truth reflecting the varying degrees of environmental impact. Embracing sustainability is a responsibility that supports innovative economic models, such as Green City, Wellness City, MICE City, Creative City and others, which combine economic growth with environmental care.

**Event Venue,  
9-13 Feb 2025**

**Chiang Rai, Thailand  
Cultural Nature**

**Coexistence Between Humans  
and Trees : Birth of a New Life "**

**Day 1: Sat 8 Feb**

Arrival of AIPH Board member

**Day 2 :Sun 9 Feb**

Arrival of delegates  
AIPH Board meeting  
Welcome Dinner by CEI

**Day 3 : Mon 10 Feb**

Expo Conference  
AIPH General Meeting (AIPH Member only)  
Expo Conference Dinner

**Day 4: Tue 11 Feb**

AIPH Industry Meeting  
Green Conference

Focused Group Workshop : Green City Chiang Rai

**Day 5: Wed 12 Feb**

Green City Tour & Site Visit (Full Day)

**Day 6: Thu 13 Feb**

Tour of the Area for industry and tourism  
Farewell Dinner

**Day 7: Fri 14 Feb**

Departure to home country





**Agenda for Focused Group Workshop: Green City Development  
for Chiang Rai**

**Tuesday 11 February 2025 at 14:00-17:00 hr.  
Le Meridien Hotel Chiang Rai, Thailand**

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14:00-14:10 **Welcome remarks**

14:10-14:20 **Summary from morning session and set the stage for discussion**  
Facilitator: Dr.Metinee Srivatanakul

14:20-16:45 **Focused group sharing and discussion  
for Chiang Rai Green City Development**

- Facilitators :

Assoc. Prof. Surasak Kangkhao,

Assoc. Prof. Dr. Rawiwan Charoensup,

Dr.Metinee Srivatanakul

- Resource Persons: Invited experts (Including the Speakers from AIPH Green City Conference in the morning session) from Thailand and abroad

- Participants: Relevant public and private organizations for Chiang Rai Green City  
Implementation discussion

16:45-17:00 **Summary of results from the discussion**

**Green City Chiang Rai aligns with SDGs, ASEAN Blueprint, Thailand's National Strategy, Green City Development Guidelines, and ADB through sustainable city development, water and energy management, economic sustainability, and green space development.**

**Sustainable Development Goals (SDGs)**

- Sustainable City Development

**ASEAN Blueprint**

- Green City Development in ASEAN
- Promotes eco-friendly cities
- Uses renewable energy and reduces reliance on fossil fuels

**National Strategy 20 Years (2018-2038)**

- **Main Topic:** Sustainable Economic and Environmental Development
- Sustainable economic growth
- Promotes health tourism and organic farming

**Green City Development**

- **Main Topic:** Sustainable Cities with Eco-friendly Technology
- Green spaces and herbal gardens for health and relaxation
- Effective water management technology

**Asian Development Bank (ADB)**

- **Main Topic:** Sustainable Infrastructure and Resource Management
- Infrastructure supporting water management and clean energy
- Promotes sustainable city development



Green Space Management

**Essential components for creating Green City**

- Urban Green Space Expansion
- Community Engagement
- Education and Awareness Promotion
- Appropriate Plant
- Water System Integration
- Green Technology Development
- Waste Management and Recycling

**Session Workshop**

- Chatchawan Pringuangkeo
- the Saem Pringuangkeo
- Foundation
- Asst.Prof. Dr. Apisom Intralawan
- Natural Resources and Environmental Management
- Krod Rojanastien
- Chiwasarom
- Assoc. Prof. Surasak Kangkhao
- Assoc. Prof Dr. Rawivivan Charoensap

**Cultural Ethnobotany**

Coexistence Between Humans and Trees : Birth of a New Life

- Dr. Metinee Srivatanakul
- Assoc. Prof. Dr. Chaturong Louhapensang
- Dr. Rattikarn Khambud
- Kovit Kivansrisut

**Local collaboration agency**

Participation in seminars and workshops with local agencies to drive provincial development plans

**Future Project Ideas for Chiang Rai**

- SMART CITY
- CREATIVE CITY
- MICE CITY
- WELLNESS CITY
- CITY CLUSTER

**Keynote Topics**

**Session 3**

- Prof. Emeritus Dr. Geoffrey A. Cordell
- Pharmacognosy
- Natural Products Chemistry
- Mr. Felix Loh
- CEO Gardens by the Bay Singapore
- Asst Prof. Perrine Hamel
- Environmental Policy and Management in Asia
- Biodiversity Conservation
- Climate Change Impact
- Environmental Economics
- Prabhakorn Vadanyakul
- Architectural Design
- Sustainable Development
- Curriculum Architecture
- Community Involvement

- Department of Agricultural Science
- Public Institution
- Educational Institution
- Department of Public Works and Town & Country Planning

Cultural Ecology

**Creativity**

"Connecting Nature and Humanity"

Creativity for Green Sustainable Future

**Session 2**

- Assoc. Prof. Surasak Kangkhao
- Shaping the Future of Ecological Urbanization through hidden Truths
- Prof. Dr. Jakob Brandtberg Knudsen
- Ecological Design Sustainable Urban Development

- Department of Public Works and Town & Country Planning
- Tourism in Thailand
- Local Administrative Organization
- Public Institution
- Department of Agricultural Science

Civilized Agriculture

**Continuing Sustainable Development**

- Civilized Agriculture
- Sustainable Agronomy

Urban-Rural Planning

Continuing Green Sustainable Development

**Session 1**

- Prof. Dr. Vanchai Sirichana
- Establishment and Development of Educational Institutions
- Management and Organizational Communication
- Organizational Culture Development
- Green University Management
- Kotchakorn Voraakhom
- Landscape Architecture
- Sustainable Green Space Development
- Climate Change Adaptation

- Department of Natural Resources and Environment
- Department of Agricultural Science
- Agricultural Development

**Model knowledge**

Cultural Heritage

Agriculture

TRUTH

Nature and value meeting n

\*Surviv

Tru

Stay with nature through plants a fosters susta

Humans often attempts to comb



**GREEN CHIANG** Nature & City Life

# Future Project Ideas for Chiang Rai (Based on the Green City 2025 initiative)

**•Smart City:** Chiang Rai plans to develop into a smart city by utilizing technology to reduce energy consumption and enhance resource management. This includes managing energy systems, traffic, and waste and water management sustainably.

**•Creative City:** Chiang Rai emphasizes the creation of culturally unique spaces by integrating local art and culture into urban structures. This includes public art made from recycled materials to promote sustainability and cultural appeal.

**•City Cluster:** Chiang Rai plans to establish a sustainable city cluster by developing green transport systems and infrastructure that support sustainable growth among neighboring cities.

**•MICE City:** Chiang Rai aims to become a city for meetings, incentives, conventions, and exhibitions (MICE) that is environmentally friendly. This involves creating conference centers that utilize green technology and reduce energy consumption in all event processes.

**•Wellness City:** Chiang Rai's Wellness City focuses on development, initiated by the provincial governor, to become a center for health and wellness. This concept emphasizes the use of natural resources such as hot springs and natural spas, alongside managing green spaces to enhance the health and well-being of residents. A Wellness City is defined as a city with public spaces and buildings designed to promote the overall health and well-being of its population.

**•Green City:** Chiang Rai aims to be a model green city by focusing on renewable energy, constructing energy-efficient buildings, and conserving green spaces to create a sustainable environment beneficial to the community in the future.

## Blue Added Wellness City

**Health Promotion**  
**Sustainable Economy:**  
**Eco-Friendly Design:**  
**Water Management**  
**Flood Prevention:**  
 A city promoting health, sustainable economic growth, and environmental stewardship for long-term well-being.

GREEN CITY

Wellness

## • Natural Agriculture Center DOI IN C



## • The Water-Resilient City: Innovations in Flood Prevention and Living with Water



**Green Corridor**  
 Restoring wetlands and creating a Green Corridor will reduce flood risks

1. Sufficiency Economy Agriculture
2. Forest Fire Prevention
3. Flood Control
4. Nature-Based Healing
5. Eco-Architecture
6. Community Development

## "Green Space for Growth: Shared Responsibility, Shared Prosperity"

**Community and Business Involvement:** Promotes sustainability and new income opportunities through green space management.

**Economic and Environmental Sustainability:** Community and private sector involvement turns green spaces into valuable resources.

## "City Scan: Blueprint for Change"

Cities, like human DNA, have unique traits shaped by geography, population, and culture. Understanding physical features (mountains, rivers, topography) and demographics is crucial for defining a city's identity and functionality.

### Key Steps to Analyze a City's Scan

#### Discovering Core Elements

- Cultural Heritage
- Architectural Identity
- Community & Demographics
- Economic Backbone
- Historical Layers

Natural Environment  
 Analysis  
 Strategic  
 Action Plan

Blueprint

Key

**1. Efficient Land Use:** Optimize land productivity while preserving natural ecosystems.

**2. Value Creation:** Develop economic opportunities from natural resources to promote self-sufficiency.

**3. Self-Sustaining Development:** Implement urban systems that manage resources sustainably for long-term.

**4. Preserve Natural Context:** Avoid land use that disrupts or harms the original nature and culture

**5. The Truth of Sustainability:** Align development with ecological realities to ensure harmonious coexistence with nature.

Key

## City Life:

Integrating nature and culture into urban living through green spaces and urban agriculture, promoting sustainability, food security, and resilience for adaptable, eco-friendly cities.

*Sustainability & Resilience*  
*Cultural & Resource Management*  
*Health & Well-being*

## Culture:

Nature inspires culture, shaping tools\*, beliefs, and practices. Creativity from nature drives innovation, needs and fostering balanced communities.

*\* Resources are symbols of sustainability*  
*Technical tools: Books, media, and practical devices.*  
*\* Archaeological tools: Language and icons.*  
*Cultural customs: Nature-inspired practices and writing systems.*

*Nature not only shapes nature but also influences culture.*

## Nature:

Nature is not controlled; nature inspires by sustaining life through food, medicine, and shelter, while local wisdom promotes sustainable living and resilience against disasters.

*Humanity's attempt to control nature, as seen in examples like Frankenstein and artificial gardens, often leads to disasters. However, the truth remains: humans cannot fight against nature.*

GREEN CITY



AIPH



SDGs

- Green Space Management



- Appropriate Plant Selection



- Urban Green Space Expansion



- Water System Integration



- Community Engagement



- Green Technology Development



- Education and Awareness Promotion



- Waste Management and Recycling



1. Green Space Management

- **SDG 11 (Sustainable Cities and Communities)**
- **SDG 3 (Good Health and Well-being)**

2. Appropriate Plant Selection

- **SDG 15 (Life on Land)**
- **SDG 12 (Responsible Consumption and Production)**
- **SDG 2 (Zero Hunger)**

3. Urban Green Space Expansion

- **SDG 11 (Sustainable Cities and Communities)**
- **SDG 13 (Climate Action)**
- **SDG 2 (Zero Hunger)**

4. Water System Integration

- **SDG 6 (Clean Water and Sanitation)**
- **SDG 11 (Sustainable Cities and Communities)**
- **SDG 2 (Zero Hunger)**

5. Community Engagement

- **SDG 11 (Sustainable Cities and Communities)**

6. Green Technology Development

- **SDG 9 (Industry, Innovation, and Infrastructure)**
- **SDG 12 (Responsible Consumption and Production)**

7. Education and Awareness Promotion

- **SDG 4 (Quality Education)**
- **SDG 15 (Life on Land)**

8. Waste Management and Recycling

- **SDG 12 (Responsible Consumption and Production)**
- **SDG 13 (Climate Action)**





**SDG 2 (Zero Hunger)**

**SDG 3 (Good Health and Well-being)**

**SDG 4 (Quality Education)**

**SDG 6 (Clean Water and Sanitation)**

**SDG 9 (Industry, Innovation, and Infrastructure)**

**SDG 11 (Sustainable Cities and Communities)**

**SDG 12 (Responsible Consumption and Production)**

**SDG 13 (Climate Action)**

**SDG 15 (Life on Land)**

**Department of Public Works and Town & Country Planning, Ministry of Interior**



**TARGET 11-7**













































**PROVIDE ACCESS TO SAFE AND INCLUSIVE GREEN AND PUBLIC SPACES**

**Urban Development for Safety and Sustainability**

- Safety and Infrastructure:
- Environment and Utilities:
- Land Use and Urban Renewal:
- Universal Design:
- Building Conservation and Renovation:

**11.7.1** Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities

		Model P A S T	Develop P R E S E N T
 <b>AIPH</b> Essential components for creating Green City		 <b>SDGs</b> <b>Green City Thailand</b>	  <b>Urban Development Safety and Sustainability</b>  <ul style="list-style-type: none"> <li>• Safety and Infrastructure</li> <li>• Environment and Utilization</li> <li>• Land Use and Urban Resilience</li> <li>• Universal Design:</li> <li>• Building Conservation and Renovation:</li> </ul>
<b>1</b>	การจัดการพื้นที่สีเขียว: • Green Space Management	  	<b>The Doi Tung</b> Promote the planting, restoration, and maintenance of forests and community forests, with a focus on forest management by the local population.  <b>Doi Saket Community Learning Center</b> Chiang Rai Municipality's community has a keen interest in the city with high potential for sustainable urban development.
<b>2</b>	การเลือกพืชที่เหมาะสม: • Appropriate Plant Selection	   	<b>The Doi Tung</b> Using suitable plants is key to forest restoration. Water plants that filter air, reduce soil erosion, and retain moisture, such as coffee, macadamia, local tea, and medicinal plants.
<b>3</b>	การเพิ่มพื้นที่สีเขียวในเมือง: • Urban Green Space Expansion	   	 <b>"Kok River Riverside Park Development"</b> The project involves creating a riverbank park along the Kok River for recreation and increasing the development of bicycle paths and pedestrian walkways.
<b>4</b>	การบูรณาการระบบน้ำ: • Water System Integration	   	Model area development project According to the royal initiative  <b>Geo-social Map</b> "Project to Develop a Geo-Social Map for Water Management" 
<b>5</b>	การส่งเสริมการมีส่วนร่วมของชุมชน: • Community Engagement	 	<b>The Doi Tung</b> Model area development project According to the royal initiative   ศูนย์พัฒนาเมืองสีเขียว
<b>6</b>	การพัฒนาเทคโนโลยีการจัดการสวน: • Green Technology Development	  	 <b>Medicinal Innovation of MFU</b> Missions - To develop research of herbal innovation, traditional medicine and... 
<b>7</b>	การส่งเสริมการศึกษาและการสร้างความตระหนักรู้: Education and Awareness Promotion	  	 (Medicinal Innovation)
<b>8</b>	การจัดการขยะและการรีไซเคิล: • Waste Management and Recycling	  	 <b>upcycling of materials in urban areas through recycling</b> 

## Creativity FUTURE

### ment for

## Future Green City World 2024

Utrecht, Netherlands  
**Purpose:** Future Green City World 2024 aims to explore and promote innovative approaches for developing sustainable, green cities. The event focuses on integrating advanced green technologies, environmental sustainability, and community engagement to create urban environments that are resilient and adaptable to future challenges.

aintenance of conservation  
 on active participation

**DPT Light Green Zones:** Designated for open spaces aimed at recreation and environmental conservation, protection

- RWL- Rawivan Lab - VERTICAL HEARD GARDEN**
- KPA- VERTICAL HEARD GARDEN**
- Tak** Silent Garden and Nature Trail, Pop Phra District, Tak

**Kiri Chai Yama**  
 Key natural forest area within urban development.

ion, focusing on low-  
 n, and increase soil  
 ea, and vetiver grass.

**DOI IN C**  
**"The Royal Initiative on Wet Forest Restoration Theory"**  
 The theory focuses on conserving and restoring forests by maintaining moisture as a key factor, which helps keep the forest lush and green throughout the year, making it less susceptible to wildfires.

**Development Project"**  
 side park along the Kok  
 green space, including  
 and pedestrian

**DPT** Connecting and supporting activities with local communities according to urban zoning colors involves:  
**Light Blue Zones:** Designated for open spaces along rivers for the purpose of environmental protection.

**"Check Dams at Wat Phutthayotkan Doi Insee"**  
 King Rama IX's royal initiative emphasized the importance of constructing small check dams to slow down water flow and retain water in the soil. This approach aims to create moisture and restore degraded forest areas.

Development through Planting People and Planting Forests"

โครงการอนุรักษ์พันธุ  
 ษณ์พระราชทานอชอินทรี  
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vation Center  
 research in the field  
 Thai  
 and alternative medicine

**MFU HERBAL VALLEY WELLNESS CITY**  
 ศูนย์นวัตกรรมสมุนไพรทางเลือกสุขภาพเมืองแม่ฟ้าหลวง

on Center of MFU)

**THAILAND MICE** MEET THE MAGIC | **TCEB** | **Chiang Rai** CREATIVE CITY OF DESIGN | **unesco** Centre of Excellence/Network

materials and the enhancement of water-absorbing  
 cycled materials.

## Beyond Green City

### 1. Transportation

- Smart Tech: Digital traffic management.  
Example: Automated traffic lights.
- Eco-Friendly Transit: Promote green transport.  
Example: Electric vehicle chargers.
- Connectivity: Develop bike paths and walkways.  
Example: Bicycle routes.

### 2. Food Security

- Urban Farming: Use vertical gardens.  
Example: Urban vertical gardens.
- Food Waste: Recycle into compost.  
Example: Composting food waste.
- Local Food: Support local markets.  
Example: Farmers' markets.

### 3. Urban Development

- Resilience: Design for climate change.  
Example: Flood prevention.
- Circular Economy: Reduce waste.  
Example: Closed-loop systems.
- Social Equity: Affordable housing.  
Example: Mixed-use spaces.
- Green Tech: Enhance green areas.  
Example: Green roofs.
- Planning: Integrate land use and transport.  
Example: Mixed-use developments.

The global city theme called **"City Cluster"** serves as a hub for a global network of expertise from specialists in areas such as energy, water, waste, transportation, and human experience. Its goal is to achieve the Sustainable Development Goals (SDGs).

### โครงการระดับเมือง Logistic + Smart City



### ASEAN Herbal Innovation





## Chengdu International Horticultural Exhibition 2024 Showcasing Thai Gardens on the Global Stage

The **International Horticultural Exhibition 2024 Chengdu** (Expo 2024 Chengdu) is a world-class event held from **April 26 to October 28, 2024**, under the theme **“Park City, Beautiful Habitat.”** The event was inaugurated by **Vice President Han Zheng** of the People’s Republic of China at the Chengdu Eastern New Area in Sichuan Province.

### The Grandeur of the International Horticultural Exhibition

This prestigious event highlights Chengdu's potential, with strong support from the Chinese government, underscoring the importance of the horticultural industry. Spanning over 1,500 rai (approximately 240 hectares), the event features:

- **Main Venue:** Chengdu Eastern New Area
- **Additional Venues:** Wenjiang District, Pidu District, Xinjin District, and Chongzhou City
- **Exhibition Spaces:** Six indoor exhibition halls and 113 outdoor gardens

**International Gardens:** 39 gardens, including a notable Thai presence  
**Thailand’s Role in the Exhibition**

The Horticultural Society of Thailand was invited by the Chengdu local government to participate in this grand event. Their garden, designed under the theme **“Siam Royal Lotus,”** showcases the beauty of Thai lotus flowers in a **1,002 square meter** area. Designed by **Assoc. Prof. Surasak Kangkao**, the garden’s unique blend of architecture, plants, and artistic elements earned it the **Silver Award in the International Garden category.**





### **Thailand's Success and Long-Term Impact**

Thailand's awards at this global event highlight the country's capabilities in garden design and cultural representation. The exhibition also positions Thailand as a leading hub for horticulture on the global stage.

### **Conclusion**

The Chengdu International Horticultural Exhibition 2024 exemplifies China's leadership in the floral industry while offering a platform for Thailand to shine internationally. With its award-winning gardens, Thailand has demonstrated its excellence in design and international cooperation, leaving a lasting impression on the global horticultural community.

### **Sources**

- Horticultural Society of Thailand
- Reports from Expo 2024 Chengdu



**KMITL**

ก้าวสู่ปีที่ 65 ด้วยความภาคภูมิใจ  
THE WORLD MASTER  
OF INNOVATION



**KMITL**  
สถาบันเทคโนโลยี  
พระจอมเกล้า  
เจ้าคุณทหารลาดกระบัง

## 65 th Anniversary of KMITL: The World Master of Innovation

**As we step into our 65th year in 2025**, King Mongkut's Institute of Technology Ladkrabang (KMITL) proudly stands as a global leader in innovation. We are committed to pioneering cutting-edge technology and innovation that will drive the world towards a brighter future.

"The World Master of Innovation" is not just a claim, but a promise to lead in creating transformative innovations that benefit society and the world. We take pride in our 65 years of achievements and remain dedicated to continuing our legacy of excellence in innovation, solidifying our position as "The World Master of Innovation."



King Mongkut's Institute of Technology Ladkrabang (KMITL) is committed to becoming a Green University and achieving Carbon Neutrality, aligning with the Sustainable Development Goals (SDGs). We integrate sustainable environmental development and natural resource conservation into all aspects of campus life.

**Sustainable University** Aiming to be a university that considers environmental impact, creates green spaces, and promotes sustainable development amid increasing environmental challenges. Committed to addressing global warming while evolving into a world-class university with sustainable quality (Sustainable University) and fostering a positive environment for staff, students, and society. The goal is to reduce carbon emissions by 50% by 2028 and achieve 'carbon neutrality' for Thailand by 2050. This is part of the university's vision to be a 'model for research and innovation development towards a future world with high quality of life and environmental friendliness'. To achieve these goals, the university has announced '9 Environmental, Energy, and Resource Management Policies for Sustainable Quality of Life' for students, staff, researchers, and stakeholders to participate in the management and quality enhancement of the institution's environmental, energy, and resource practices.

**2065**

Net Zero Emission

**2050**

Carbon Neutrality

**2028**

50% Carbon  
Footprint Reduction



**Associate Professor Dr. Komsan Maleesee**

President

King Mongkut's Institute of Technology Ladkrabang

**Environmental education** is integrated into our curriculum, fostering a culture of sustainability. Green spaces are created on campus, enhancing both the environment and student well-being. We support research and development of eco-friendly technologies and focus on reducing greenhouse gas emissions through effective carbon management.

Key programs include the KMITL Traveling Orphan Waste Program, "Trash for Happiness," "One Cup, One Heart," and "Because Love Requires Courage," all of which promote sustainable practices and community involvement. We also transform unused areas into green spaces and maintain the Canal, ensuring its sustainability. KMITL's commitment to sustainability drives us to leverage technology and innovation, supporting the Thailand 4.0 initiative and creating a connected, digital future.



**Professor Dr.Pariyaporn Tungkunanant**

Dean of Faculty of Industrial Education and Technology  
King Mongkut's Institute of Technology Ladkrabang

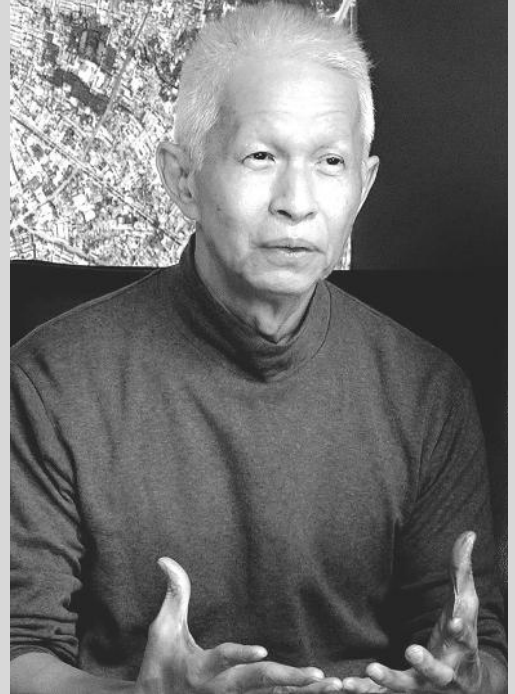
Leader in learning innovation Focus  
on producing graduates Education  
To be an important force in development  
Society and country

Each local area has unique characteristics, necessitating a customized approach to urban planning that considers the past, present, and future.

In the context of urban development in Asia, it is essential for urban planners to thoroughly understand and analyze the distinctive characteristics of their local environments. By taking into account factors such as historical, cultural, and socioeconomic nuances, the specific needs and preferences of the local population, and emerging technologies like drones that may change traditional transportation, urban planners can design and implement more effective and sustainable urban planning solutions. Embracing an approach that is tailored to the Asian context, rather than rigidly adhering to Western urban planning theories, can lead to more harmonious and practical urban development outcomes.



Planning for sustainable living is essential for our past, present, and future. Our ancestors' wisdom in geography and resource management created thriving cities rich in natural resources, an absolute truth that underscores the importance of sustainable practices. Today, we must continue learning from the past to maintain a strong connection with nature. This connection is crucial for our survival and the planet's, a relative truth reflecting the varying degrees of environmental impact. Embracing sustainability is a responsibility that supports innovative economic models, such as Green City, Wellness City, MICE City, Creative City and others, which combine economic growth with environmental care.



**Assoc.Prof Surasak Kangkhao**  
King Mongkut's Institute of Technology Ladkrabang

Founder  
Heritage Asian Research Community  
HARC.ASIA

# 2024

1	2	3	4	5	6	7	8	9	10	11	12	1
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN

25/07/24

**Thai Dutch Session Horti Asia 2024**  
22 may 24



**Netherlands Denmark Jun 2024**



10/08/24

Sichuan Agricultural University China

CHINA EXPO

Qingdao City, Shandong Province, China

QINGDAO, CHINA

AIPH

Summary of content for the Speaker AIPH Green City Conference theme Cultural Ethnobotany

BKK GREEN CITY : GREEN PLANING CITY

AIPH AIPH World Green City Site Visit : CHIANG RAI NOV 2024

TCEB THAILAND CONVENTION & EXHIBITION BUREAU

**Sing Buri MOU**

Cooperation memorandum signing ceremony Academic to practice Sustainable development of Bangkok province Davao del Norte Province Partners in the network of educational institutions and private sector organizations

Signing Ceremony 25 April 2024

**SING-BURI URBAN-DEVELOP**

**SING-BURI URBAN-DEVELOP Canal Quarter**



**SING BURI MOU 2024**  
SIMPLICITY OF WATERS  
"EXPLORING UNITY AND BALANCE IN THE CITY OF WATER MANAGEMENT AND TRADITIONAL LIFE IN A HISTORICAL CITY."



**URBAN-DEVELOP Landmark**

**SING-BURI project**

**TADE 5**  
The 5th THAILAND ART AND DESIGN EXHIBITION

Cultural Nature

7-30 SEPTEMBER 2024

Opening Ceremony 25th Floor Bangkok Art and Culture Centre

HARE + HUREL

**The ASEAN Flower Festival Chiang Rai 2024**

Water transportation



**TADE 5 (THE 5th THAILAND ART AND DESIGN EXHIBITION) 3-15 SEP 24**

**MOU Chiang Rai**

27 กรกฎาคม 2566

Research Community - Sustainable Development

การวิจัยชุมชน - การพัฒนาที่ยั่งยืน

การวิจัยชุมชน - การพัฒนาที่ยั่งยืน

การวิจัยชุมชน - การพัฒนาที่ยั่งยืน

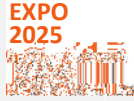
CHIANG RAI MOU 2023 CHIANG RAI -URBAN-DEVELOP



2025

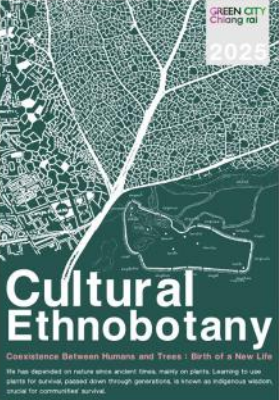
2026

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FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB

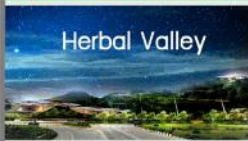


9-13/02/25

GREEN CITY Chiang rai



CHIANG RAI GREEN CITY OUT PUT



Flower and Ornamental Plant Global Market



CHIANG RAI GREEN CITY Preparation Meeting for the AIPH International Green City Conference, 2025

FAB 2025



Wellness City



The ASEAN Flower Festival Chiang Rai 2025



Creative City



### HARC members and collaborators



### HARC international collaborators

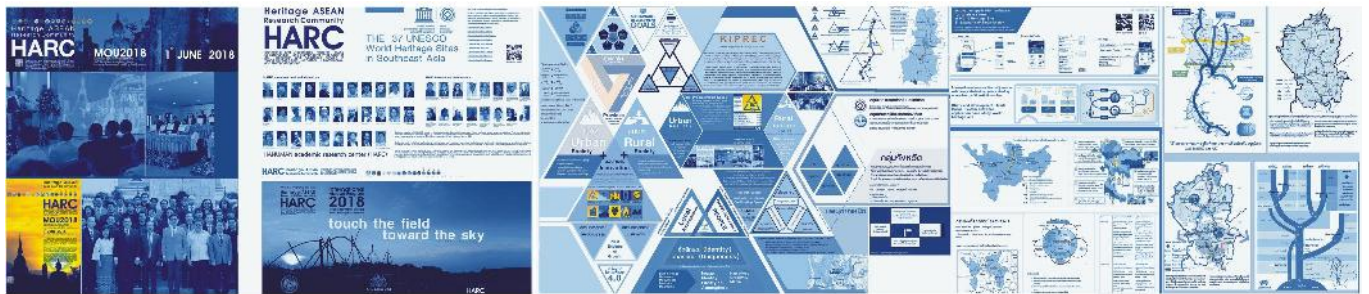


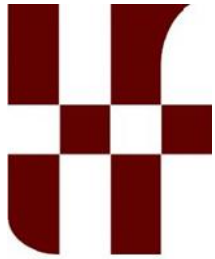
Being a handful of UNESCO cities in Southeast Asia, Sukhothai hosts two World heritage sites, while Kamphaeng Phet contains one. Situated in the lower northern region of Thailand, the three areas constitute the Historic Town of Sukhothai and Associated Historic Towns, which were registered by the UNESCO as a tripartite World Heritage site in 1991.

Owing to such historical and cultural importances, our research team has undertaken a series of multidimensional studies developing strategic models to accommodate creative tourism for communities around Si Satohanalai, Sukhothai, Kamphaeng Phet historical parks.

Aside from proposing sensible and practical means for implementing well-conceived policies and measures to pursue sustainable development while preserving the identity and socio-cultural legacies of the listed historical sites in proportion to the accepted international standard and practice the said investigations could lead to multilateral efforts in accumulating and disseminating knowledge shared cultural heritages among Southeast Asian countries in times to come.

## HANUMAN academic research center (HARC)





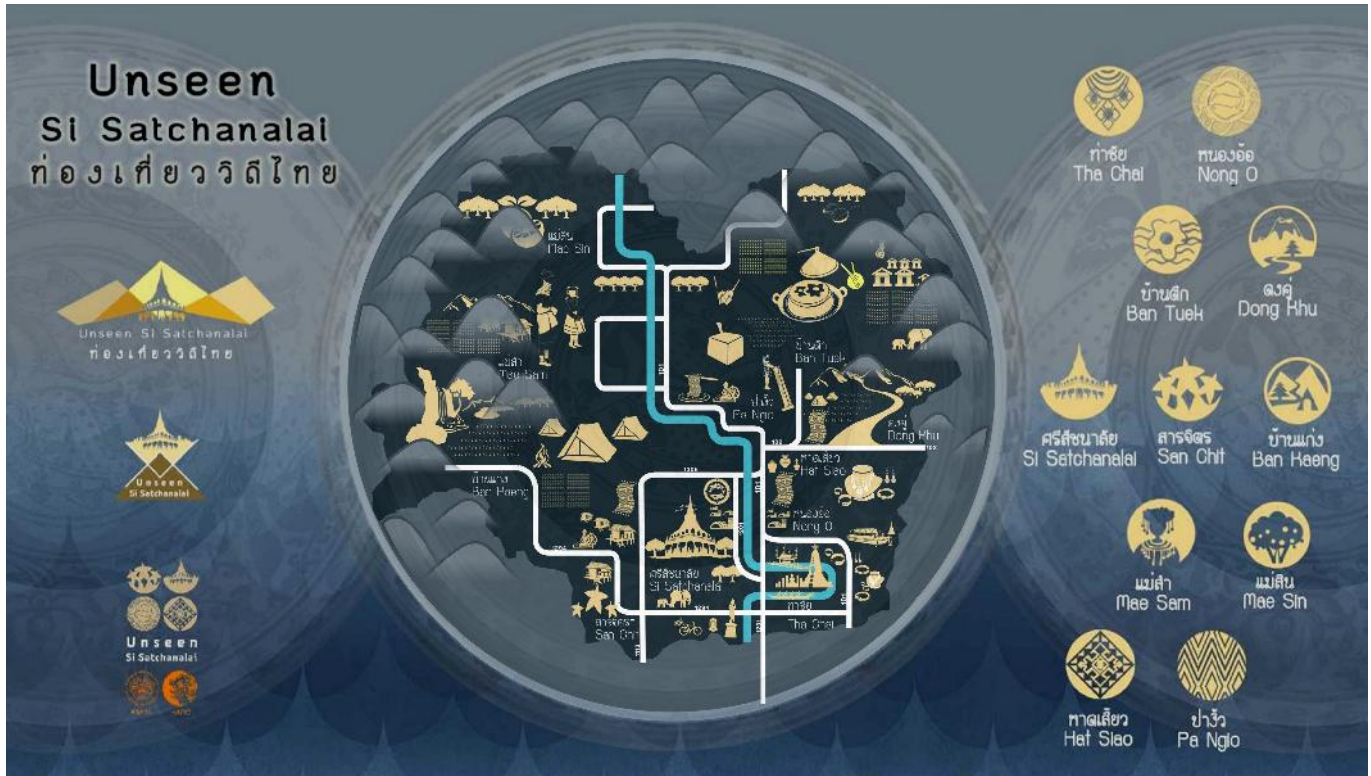
H A R C . A S I A  
**Heritage Asia  
Research  
Community**

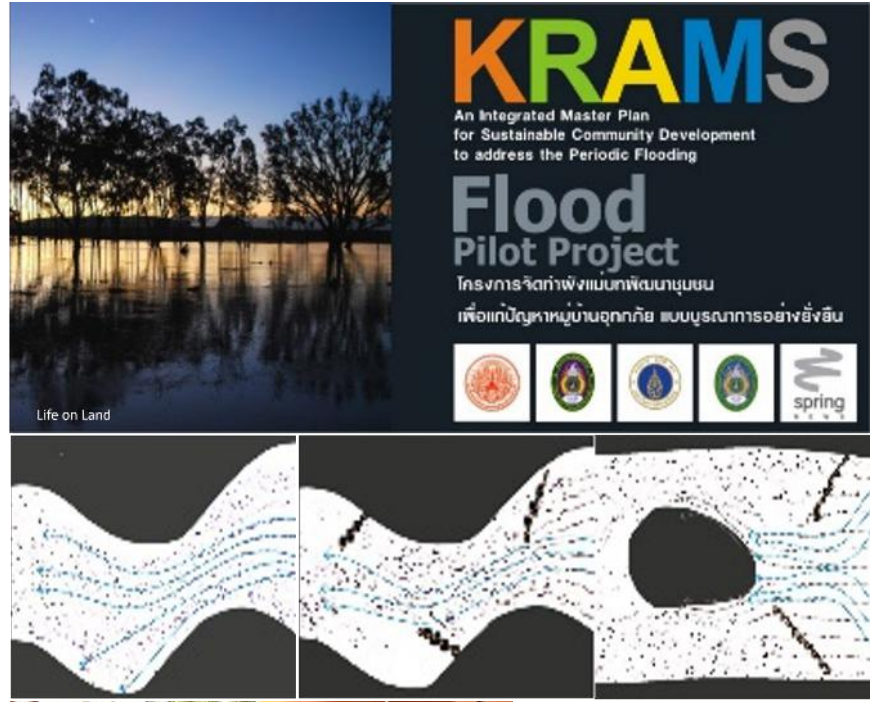
The establishment of HARC marks a significant step forward in promoting mutual acceptance and appreciation of cultural heritage among ASEAN member states. This initiative aims to preserve and enhance the historical and natural areas of cities, acknowledging the rapid growth in cultural identity, environmental concerns, and global changes. However, these advancements also bring challenges, such as the commercialization of cultural heritage and land use changes, which threaten the authenticity and uniqueness of these places.

To address these challenges, HARC conducts interdisciplinary research to ensure that economic development aligns with cultural conservation. The program strives to bridge the gap between policymaking and grassroots initiatives, fostering a balance between economic benefits and cultural and environmental sensitivity. HARC is dedicated to preventing historical areas from becoming mere tourist attractions and instead aims to create the best version of cities, fully prepared for global changes in all dimensions.

This preparation includes managing water resources, developing green cities, preventing natural disasters such as wildfires and PM2.5 pollution, and promoting agricultural cities focused on herbal medicine. These efforts aim to balance biodiversity with cultural diversity, forming the foundation for sustainable urban development in ASEAN.

As we move forward, the concepts and initiatives championed by HARC serve as a blueprint for developing sustainable cities across ASEAN. By integrating economic progress with cultural and environmental preservation, we can create cities that not only thrive in the face of change but also honor their unique heritage and identity.





# MOU 2012

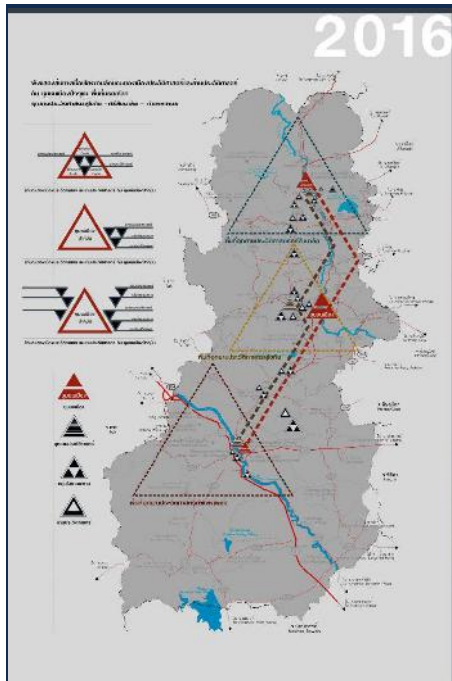
## KRAMS PROJECT

Inundation prevention in  
flood-prone areas



The project aims to develop an Integrated Master Plan for Sustainable Community Development to address periodic flooding. It will focus on tangible results by analyzing and synthesizing information from communities in the region. Cooperation from all sectors will be sought to drive concrete performance and pilot sustainable solutions, which can be expanded to benefit flood victims in the future. This approach aims to reduce wastage, increase productivity, and promote self-sufficient housing in flood-prone areas. Key problems to be addressed include agriculture and farmers, air pollution in agricultural areas, water management, community distribution, and riverbank erosion.

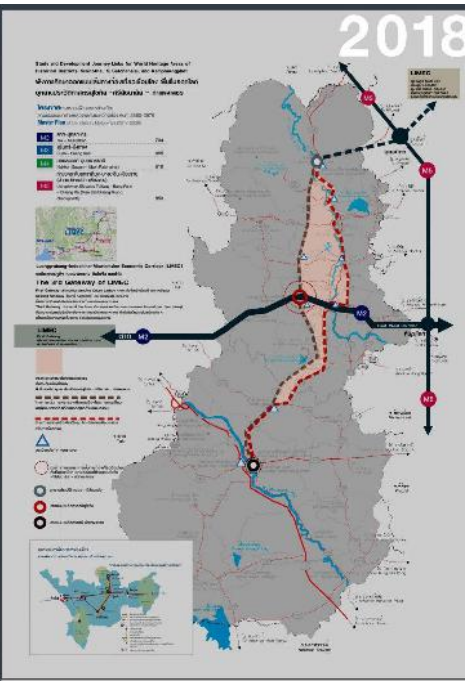
SDG15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



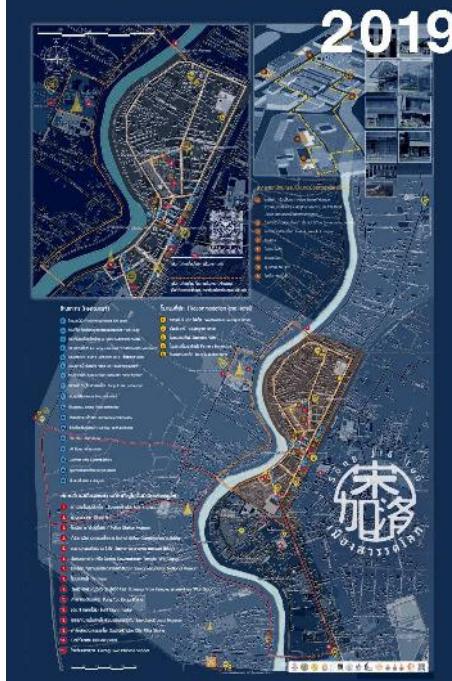
2016 Master plan for development of sustainable creative tourism at Sukhothai, Si Satchanalai, and Kamphaeng Phet historical parks, funded by the National Research Council



2017 Comprehensive plan for destination links among Sukhothai, Si Satchanalai, and Kamphaeng Phet historical parks, funded by the National Research Council



2018 Master plan for development of sustainable creative tourism at Sukhothai, Si Satchanalai, and Kamphaeng Phet historical parks as integral constituents in the network of UNESCO's World Heritage sites in ASEAN community, funded by the National Research Council



2019 Master plan for urban redevelopments in Sawankhalok city to promote tourism links with Sukhothai, Si Satchanalai, and Kamphaeng Phet historical parks, funded by TSRI

2020 Innovative application software for tourism safety in UNESCO's World Heritage sites at Si Satchanalai and Sawankhalok districts, funded by TSRI

2018-2020 World Heritage Experience Sukhothai, Si Satchanalai, and Kamphaeng Phet historical parks WWW.HARC.ASIA





# MOU 2018

Heritage ASEAN  
Research Community

The Study Streetscape Case study on Creative Tourism Strategy of World Heritage Cluster Sukholthai Historical Park, Master Plan Development on Creative Tourism Strategy for Specialized Monumental Areas of Historical Districts, Study and Development Journey Links for World Heritage Areas.

# MOU

## Chiang Rai

27 มกราคม 2566

Research Community : Sustainable Development

บันทึกข้อตกลงความร่วมมือทางวิชาการสู่การปฏิบัติ  
การพัฒนาจังหวัดเชียงรายอย่างยั่งยืน

จังหวัดเชียงราย

ภาคีเครือข่ายสถาบันการศึกษา

เชียงรายพัฒนาเมือง

Signing Ceremony

27 January 2023

WWW.HARC.ASIA



**KMITL**  
สถาบันเทคโนโลยี  
พระจอมเกล้า  
เจ้าพระนา



HARC.ASIA

# MOU 2023

## Chiang Rai

The Chiang Rai MOU is a sustainable development initiative in collaboration with educational institutions and Chiang Rai Municipality. It aims to integrate research and innovation to systematically address various community problems and develop a network of community practitioners under the province's comprehensive development strategy. The goal is to become a starting point for Chiang Rai's development by improving the quality of life for disadvantaged groups and marginalized communities, fostering community-driven economic growth, and serving as the foundation for the province's and the country's future economy. This is achieved through the coordination of academic knowledge and its practical application, leading to sustainable development success.



# Sing Buri MOU

Cooperation memorandum signing ceremony  
Academic to practice Sustainable development  
of Singburi province  
Between Singburi Province  
Partners in the network of educational institutions  
and private sector organizations

Signing Ceremony 25 April 2024



**Creativity**  
"Connecting Water and Humanity"

Case Quarter / Water transportation / Rec Free / Cultural Landmark / Communal Living

Study, Netherlands, JUNE 2024  
TPO / WATER / WATER CITY / DEVELOPMENT  
City of Utrecht, Den Haag / Zuidoost  
Urban Future, UNIC, UNIC, UNIC

**Development**

Water management in the Netherlands

Management among government agencies includes the Royal Irrigation Department, Public Works and Town Planning, Agriculture Office, Commercial Office, educational institutions, and other organizations as part of the strategic plan for travel and commerce in the Upper Central Region Provinces Group.

**Continuing Sustainable Development**  
Civilized Agriculture+City+Water

SDG8

Model knowledge  
Grow people - Grow water  
Innovation Readiness Model  
History Sing Rama V  
Heritage Dvaravati Kingdom

"Cultural Heritage" and Water Management in Ancient Times (Dvaravati Kingdom)  
The trace of King Rama V's incognito life in '905  
การสืบสวนคดีลี้ภัย: ส.อ. รัตนโกสินทร์  
Singur of being a city since the Dvaravati (Dhvaravati) Kingdom, over 1,000 years old.

**Model**

P.A.S.T

## Simplicity of Waters

"Exploring Unity and balance in the city of water management and traditional life in a historical city."



Waradisonn On Nut  
Deputy Governor of Singburi



Sumet Teeranithi  
Governor of Singburi



# MOU 2024 SING BURI

## SIMPLICITY OF WATERS

"EXPLORING UNITY AND BALANCE IN THE CITY OF WATER MANAGEMENT AND TRADITIONAL LIFE IN A HISTORICAL CITY."

King Mongkut's Institute of Technology Ladkrabang, along with a working group, signed a memorandum of understanding on academic cooperation for the "Sustainable Development of Singburi Province". The aim is to develop integrated strategies and sustainable development in Singburi Province, aligning with ASEAN and other regions to achieve the SDGs and coordinate efforts to solve poverty issues. The project also involves developing a network of community practitioners to address poverty and promote development. Associate Professor Surasak Kangkhao presented ideas and plans for the province, including maximizing public space utilization, covering canals in urban areas, and revitalizing the old city area for community use. Guidelines for cooperation were discussed and agreed upon by network partners involved in each project to advance towards the goal.

**“จากภา ผ่านภฺมา สุ่มหาบท์”** การบริหารจัดการทรัพยากรธรรมชาติ  
 ในพระบาทสมเด็จพระมหาภูมิพลอดุลยเดชมหาราช บรมนาถบพิตร  
 Natural Resource Management by His Majesty King Bhumibol Adulyadej The Great





## geo-social maps

**The Department of Public Works and Town & Country Planning (DPT)** is driving the creation of a **geo-social map** for sustainable integrated water management in villages and communities, as assigned by the Ministry of Interior. This project involves integration with other agencies under the Ministry of Interior. Data from the geo-social map will be used to plan projects and activities to address flooding, drought, and improve the quality of life for residents in these areas.

**Pongrat Piomrat, Director-General of the DPT**, stated that the geo-social map represents the true conditions of the area in both physical and sociological aspects. It is created through a participatory process involving local residents. Government agencies will provide guidance and explanations to help locals understand the real conditions of their area. Residents will then think about how they want to develop or solve problems in their area and record their ideas on the geo-social map. This information will be used by government agencies to plan projects and activities that align with the needs of the local community.

This initiative relies on collaboration mechanisms between public and private sectors, forming cooperative networks to ensure sustainable development and maintenance. The DPT has instructed provincial offices to create geo-social maps for integrated sustainable water management in villages and communities. This approach follows the royal initiative principles as a model for creating these maps to alleviate distress and enhance the quality of life for the people in the area.

# THAI - DUTCH SESSION IN HORTI ASIA 2024 INNOVATIVE & SUSTAINABLE HORTICULTURE; A THAI - DUTCH INSPIRATION IN GLOBAL CONTEXT

WEDNESDAY 22ND MAY 2024 (14:00 – 16:00 HR.)  
ROOM NILE 3, BITEC, BANGKOK



UKRIT WONGTHONGSALEE  
CHAMWASUKIT PROVINCIAL CHAMBER OF COMMERCE

MENNO KEPPEL  
AONI SOLUTIONS ASIA

METINEE SRIVATANAKUL  
HORTICULTURAL SCIENCE SOCIETY OF THAILAND

GIJS THEUNISSEN  
THE NETHERLANDS EMBASSY

BERT DESMET  
BLAMANN

SURASAR KANGRHAO  
KMITL

MIRJAM BOEKESTIJM  
DUTCH GREENHOUSE DELTA

ROB RIPPENS  
ROBERT

MARCUS VAN HEIJST  
PRIYA



REGISTRATION FREE







Dr. Gijs Theunissen DVM Chief Minister (Agriculture)  
Royal Netherlands Embassy Based in Thailand

## HARC: Thai-Dutch Session at Horti Asia 2024

"Innovative & Sustainable Horticulture: A Thai-Dutch Inspiration in a Global Context"

On May 22, 2024, Associate Professor Surasak Kangkhao (National Outstanding Lecture) and the team from the Community of Practice Network in Arts and Culture (Heritage Academic and Research Center: HARC), recognized as experts in architecture and culture with significant contributions to agricultural lifestyles, will present their ideas at this event. Organized by the Netherlands Embassy in Bangkok, in collaboration with the Horticultural Science Society of Thailand, King Mongkut's Institute of Technology Ladkrabang (KMITL), Chanthaburi Chamber of Commerce, and Dutch Greenhouse Delta, the "Thai-Dutch Session in Horti Asia 2024" will see international key players in horticulture and agriculture from the Netherlands and Thailand share their expertise.



Environment + Experience = Relative truth

HARC

STAND UP FOR THE FUTURE



#### Topic Details:

The global agri-food ecosystem is under pressure due to global climate change, particularly the degradation of natural resources (soil, water, air) used in agriculture and the food value chain. The challenge for the agri-food complex is to meet the growing demand for food security driven by rapidly growing populations. Additionally, food safety and healthy food are becoming increasingly important. The agri-food ecosystem is closely connected to other socioeconomic aspects, both locally and internationally. The Netherlands' "Farming the Future" and Thailand's "Bio-Circular-Green" initiatives are examples of efforts to boost innovative and sustainable agri-food ecosystems. An integrated agri-food policy where innovative, sustainable, healthy, and safe food can strengthen each other is essential. Collaboration among stakeholders in the agricultural and food sectors is a key success factor for today's and future agri-food ecosystems. The Netherlands government supports the transfer of knowledge (innovation and technology) worldwide through its global agricultural network. The world needs innovative and sustainably produced horticultural products (vegetables, fruits, flowers, plants). The Netherlands horticultural sector is internationally recognized not only as a key player in innovation and technology but also as a community ready for "Working Together to Solve Global Challenges."

# 2024

**HARC :**  
international network through  
cooperation and learning from  
model cities to integrate and  
elevate urban development,  
developing strategies for  
sustainable national  
development.

**HARC** 

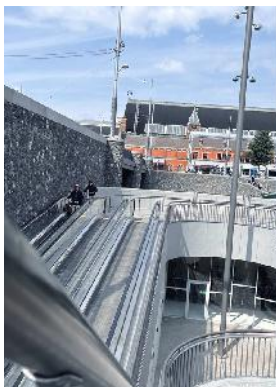
# 2024

## HARC : international network

HARC : international network through cooperation and learning from model cities to integrate and elevate urban development, developing strategies for sustainable national development.

From June 8-25, 2024, Assoc. Prof. Surasak Kangkhao, a National Outstanding Lecturer, led a team from the Heritage Academic and Research Center (HARC) in collaborating with educational institutions both domestically and internationally. Their aim was to conduct research and establish global networks focused on developing strategies for Thailand's sustainable urban development, aligned with international standards. During this period, they engaged with experts from Finland, the Netherlands, and Denmark to explore and synthesize diverse development concepts applicable to Thailand's future sustainability.

Their research in the Netherlands provided significant insights into Transit-Oriented Development (TOD) and urban area management within city limits. They particularly focused on Utrecht Centrum's development plans, emphasizing integrated transportation systems such as trains, buses, and bicycles to promote environmentally friendly commuting. They also studied the Zuidas project, a major business and financial center in Amsterdam, where they examined the integration of public transport systems to enhance convenience and stimulate economic growth.



Beyond TOD, their project encompassed managing urban areas and addressing residential development needs. This included visits to Eastern Docklands, Zaanse Schans-Volendam, and new residential areas east of Amsterdam. These visits highlighted efforts to blend residential space utilization, manage water resources, and develop environmentally compatible infrastructure, all contributing to sustainable living practices.

Their collaboration extended to key urban institutions pivotal in architectural and urban planning development, such as the Amsterdam Centre for Architecture (ARCAM), Delft University of Technology (TU Delft), and the Institute for Housing and Urban Development Studies (IHS Rotterdam). These partnerships were instrumental in fostering sustainable cooperation and development. Copenhagen and the design of public spaces in the city feature a universal approach, intended to solve problems, comfort, or inspire people to use these areas for a better quality of life. Buildings allow people to engage in various activities that everyone can participate in.

In summary, their research and collaboration underscore the importance of TOD in the Netherlands, emphasizing connectivity with public transport systems and sustainable area development. It highlights priorities in space management, water resource development, and coordinating educational networks in architectural and urban planning. These efforts aim to establish long-term balance and sustainable development practices.



# 2024

**HARC :**  
international network through  
cooperation and learning from model  
cities to integrate and elevate urban  
development, developing strategies for  
sustainable national development.



[www.harc.asia](http://www.harc.asia)

**HARC** 



# ARCAM Amsterdam Centre for Architecture



## Framework for Collaboration between HARC and ARCAM

ARCAM serves as an important information center for both new and historic architecture in Amsterdam. It has transformed Dutch architecture into one of the most interesting in the world by actively engaging the public in the development of Amsterdam's architecture and collaborating with architects and institutions to influence city architecture, particularly focusing on young architects who will lead future developments. Each year, ARCAM organizes five exhibitions that emphasize contemporary architectural advancements and historical contexts. A standout feature of ARCAM is the ARCAM panorama, which provides an overview of the city's architectural evolution over the past 1,200 years. This approach can serve as a guiding framework for developing the architecture sector in our country.



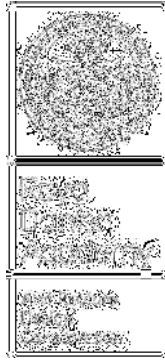
Jakob Brandtberg Knudsen Royal Danish Academy,



Lasse Gerrits, HIS, Erasmus University



Jakob Brandtberg Knudsen  
Royal Danish Academy,



During their visit to Europe, these individuals played pivotal roles in our collaborative efforts. HARC delegates engaged with:

- Prof. Dr. Jakob Brandtberg Knudsen, Dean of Architecture at the Royal Danish Academy, whose extensive experience and leadership in architectural education enriched our discussions on urban development and sustainable design practices.
- Prof. Dr. Lasse Gerrits, Academic Director at IHS, provided invaluable insights into urban planning and development strategies, bridging academic research with practical applications to foster sustainable urban environments.



Lasse Gerrits,  
HIS Erasmus University



The expertise and collaboration arising from this intense exchange of ideas have enhanced understanding and application of international best practices for sustainable urban development. This cooperation has laid a strong foundation for future initiatives focused on sustainable and comprehensive urban planning.

Moreover, their involvement plays a crucial role in advising and developing new urban structures centered around people and communities. Particularly in the context of Thailand, this sustainable and inclusive urban development will strengthen communities, promote equality, and improve the quality of life for citizens.

This collaboration is not only a knowledge exchange but also an inspiration for various projects in Thailand, potentially leading to development that aligns with local contexts and promotes efficient use of natural resources. The involvement of global advisors and experts in urban development will help Thailand apply international best practices in creating more sustainable and effective urban solutions.



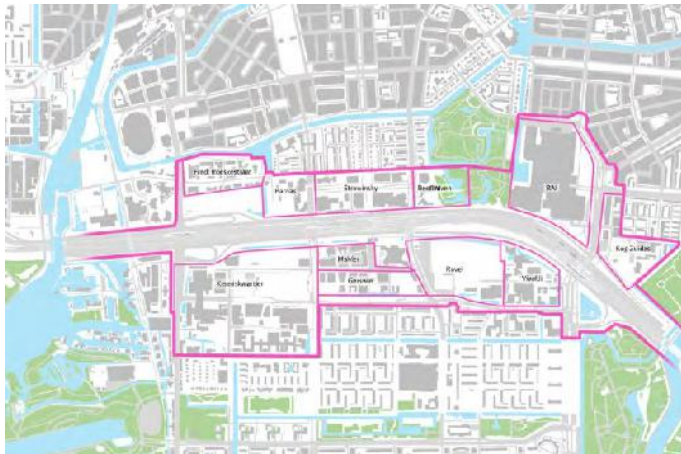
City of Utrecht:



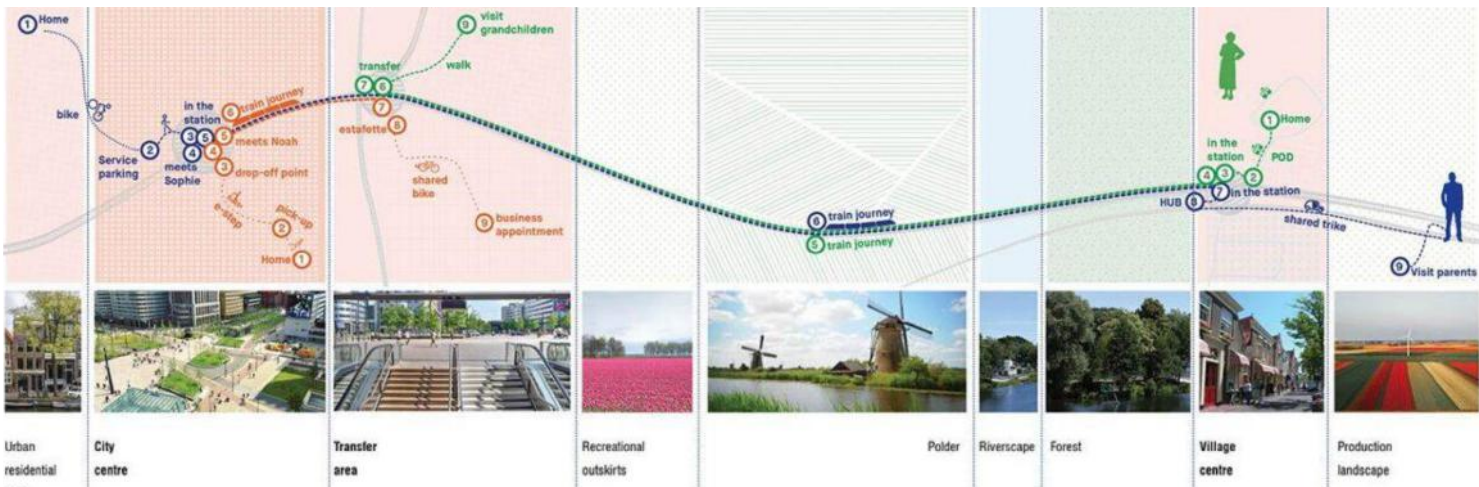
TOD Study, Netherlands

Zuidas Transport Hub - Planning and

the Area around Zuidas Transport Hub - Home - Zuidas Zuidas City Administration and Leasehold Owners Project Area: 234.38 Rai (37.5



Zuidas Transport Hub



Urban residential City centre Transfer area Recreational outskirts Polder Riverscape Forest Village centre Production landscape

# City of Utrecht: growing with green ambitions

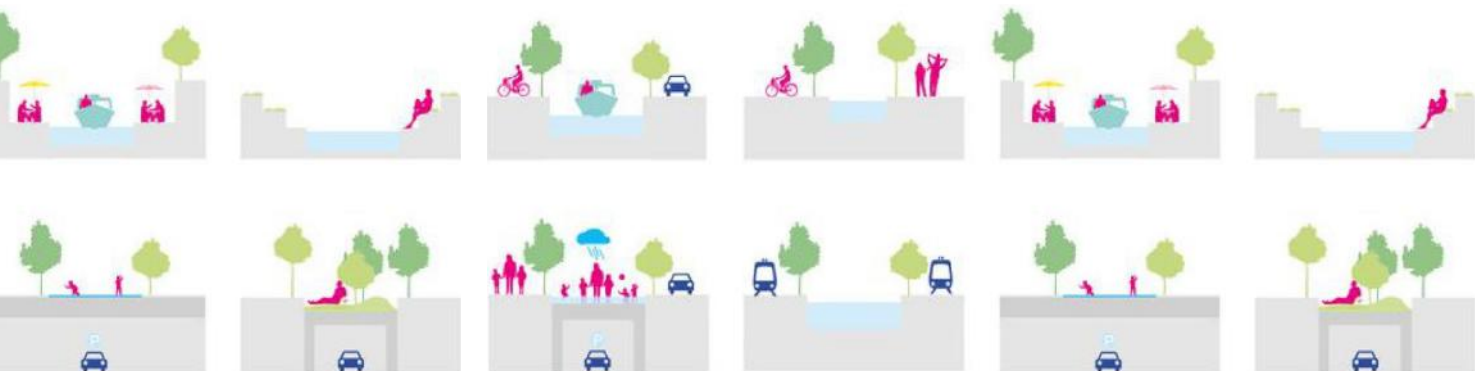
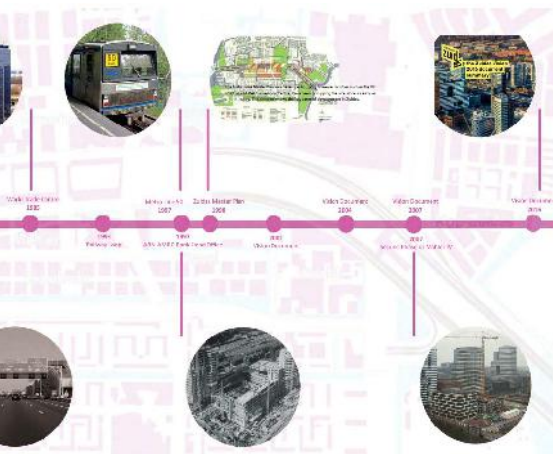
Construction development of

Leidsche Rijn Centrum in Utrecht | Cruz y Ortiz Arquitectos Utrecht Central Station



## Developing

hectares) (Currently, there are still ongoing improvements and developments in the surrounding area)



MVRDV+ Local Community Propose Plans for Lost Canals in The Hague collaborated with local neighborhood organizations to propose regenerating the canals of The Hague, Netherlands. Originally filled-in during the 20th century, these canals will be reopened to revitalize the historic center and enhance the city's sustainability, economy, and infrastructure.

**Honorary Advisor**  
**Chiang Rai**  
**Green City 2025**



**Pongnara Yenying**

Director-General

Department of Public Works and Town  
& Country Planning

## **Nature-Integrated Planning: Towards a Sustainable City**

The Director-General of the Department of Public Works and Town & Country Planning, serving as an honorary advisor to the GREEN CITY 2025 in Chiang Rai, is actively involved in developing local urban planning that emphasizes agricultural areas and efficient water management. This initiative aims to promote sustainable economic growth while enhancing community resilience against environmental challenges.

Key components of the project include training local officials to empower communities with knowledge about sustainable farming practices and environmental stewardship. This education is crucial for fostering awareness about the importance of maintaining agricultural spaces and preventing issues such as flooding and air pollution, specifically PM2.5. Through these efforts, Chiang Rai aspires to become a model province, demonstrating effective resource management and sustainable development practices. The project not only sets a standard for other cities in Thailand but also serves as an example for international cities looking to implement similar initiatives. Ultimately, the GREEN CITY project aims to inspire a broader movement toward sustainability and environmental responsibility within communities.



## Preparing for AIPH Spring Meeting & Green City Conference 2025

The Department of Public Works and Town & Country Planning held a meeting to prepare for the upcoming **AIPH Spring Meeting & Green City Conference 2025**. The event will showcase the Integration of sustainable urban planning with the development of green spaces and architecture aligned with the **Sustainable Development Goals (SDGs)**.

Key presentations were delivered by experts from King Mongkut's Institute of Technology Ladkrabang, highlighting the innovative application of **Cultural Ethnobotany** principles under the theme "*Coexistence Between Humans and Trees: Birth of a New Life.*" These principles emphasize the harmonious relationship between humans and nature, incorporating green infrastructure into urban planning to foster sustainability and resilience.

Aligned with the **International Association of Horticultural Producers (AIPH)**, the conference framework integrates global best practices to drive sustainable urban development. Chiang Rai has been selected as the host city for this prestigious event.

The meeting also discussed strategies for organizing the conference, with representatives from various departments of the Ministry of Interior contributing insights. The event reflects Thailand's commitment to promoting sustainable solutions for urban planning, green architecture, and environmental stewardship, reinforcing its leadership in the global push for sustainable development.

This initiative is a step forward in demonstrating how urban planning can incorporate green living while addressing environmental challenges, aiming to create a model for sustainable cities worldwide.

**Honorary Advisor**  
**Chiang Rai**  
**Green City 2025**



**Rapibhat Chandarasrivongs**

Director-General  
Department of Agriculture

The Director-General Department of Agriculture, serving as an honorary advisor to the GREEN CITY 2025 project in Chiang Rai, plays a pivotal role in advancing spatial planning focused on sustainable agriculture and efficient water resource management. This project aims to foster economic growth in harmony with natural resource conservation while enhancing community resilience to environmental changes.

The core of the project involves educating and training local officials and farmers to promote sustainable agricultural practices. This includes adopting appropriate technologies in production processes, soil restoration, and effective water management for agriculture. Additionally, the project supports organic farming and integrated agriculture to minimize environmental impacts.

The initiative emphasizes raising community awareness about the environmental challenges such as flooding and air pollution (PM2.5) and highlights the critical role of agriculture in mitigating these issues. Strategies include reforestation, land adjustment to improve water retention, and cultivating plants that enhance biodiversity.

Chiang Rai aspires to become a model province for sustainable agriculture and natural resource management. The GREEN CITY project not only sets a benchmark for other provinces in Thailand but also serves as a global example for adopting similar practices. Ultimately, the project seeks to inspire systemic change towards sustainable agriculture at







Using plants for food and medicine in indigenous lifestyles.

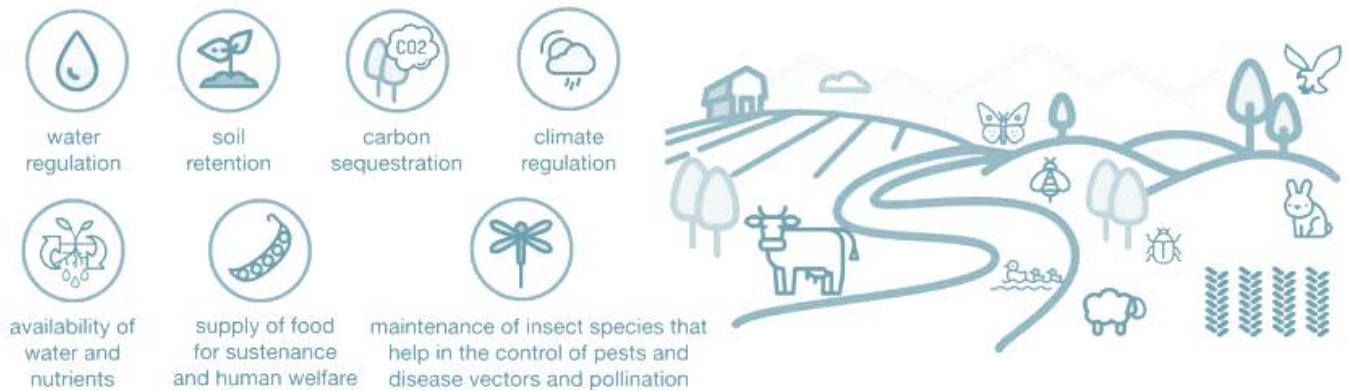
## Herb garden + Ethnobotany : The Relationship Between People And Plants

Humans, trees, and healing

Plant studies, typically led by botanists, delve into understanding plants' physical and biological traits. They draw parallels with anthropologists studying human cultures, using techniques like drawing to depict plant features. This emotional connection helps grasp the essence of each plant, mirroring human societal studies (Hartigan, 2017).

Anthropological studies include non-human life forms like trees, recognizing them as living entities capable of growth, perception, interaction, communication, adaptation, learning, memory, decision-making, and problem-solving within their environment (Gagliano, 2015).

Categorizing species separates humans from "nature," but this division is a construct that can change based on environmental conditions (Descola, 2013). Understanding relationships among humans, plants, and societies reflects a social structure built on interdependence among diverse living beings.



## Design for transformative changes Climate resilience, horticulture and agro-food ecosystems

Design for transformative changes in the built environment to address pressing issues such as climate change for sustainable architecture and planning. These principles aim to mitigate carbon emissions, enhance biodiversity, and foster inclusive and thriving communities.

- For the concept of designing herbal farms, particularly focusing on industry and sustainable practices, the following key points can be highlighted:
- **Embracing Sustainable Practices:** Designing herbal farms should prioritize sustainability by incorporating practices such as reusing, adapting, renovating, and restoring existing buildings and infrastructure. This approach helps reduce embodied carbon and preserve valuable resources.
- **Carbon Sequestration and Biodiversity:** Herbal farms should incorporate elements that promote carbon sequestration and enhance biodiversity. This can include minimizing hardscapes, increasing carbon-sequestering landscapes, and promoting the use of nature-based materials.
- **Transit-Oriented Development:** Incorporating transit-oriented development principles can enhance accessibility to herbal farms while reducing automobile dependency. This involves aligning density, integrating public transit, cycling, and walkability, and locating farms near transit hubs.
- **Human-Scale Design:** Designing herbal farms with human-scale streets, small blocks, and walking and biking infrastructure can create a more inviting and accessible environment. Prioritizing pedestrian and cyclist safety enhances the overall experience for visitors and residents.
- **Efficient Resource Utilization:** Utilizing renewable energy sources and passive design strategies such as natural ventilation and daylighting can reduce energy consumption and enhance resource efficiency in herbal farm facilities.
- **Community Engagement:** Involving local communities in the design and planning process fosters a sense of ownership and promotes equitable access to herbal farm resources and benefits.
- By incorporating these principles into the design and planning of herbal farms, it is possible to create sustainable, resilient, and inclusive environments that support the growth of herbal products while minimizing environmental impact and promoting community well-being.



## Lanna Kingdom : Phaya Mangrai

King Mangrai's development of Chiang Rai was marked by his leadership and strategic skills. Appointed by his father, King Lao Meng, he effectively governed Chiang Rai and expanded the Lanna Kingdom by capturing Hariphunchai from the Mon. A significant achievement was creating the Mangrayasat, a comprehensive law book influenced by Indian Thammawat and adapted by the Mon, written in Northern Thai for legal proceedings. This text provided a detailed legal and administrative framework, including succession rules, hierarchical governance, and ethical

guidelines. Mangrai's efforts solidified Chiang Mai as the capital and established a lasting legacy of structured and ethical governance, shaping the Lanna Kingdom's development for generations.



## The Doi Tung Development Project by the Mae Fah Loung

The Doi Tung Development Project has been instrumental in transforming Chiang Rai into a model for sustainable development and a green city. Initiated by the Princess Mother (Princess Srinagarindra) in 1988, the project aimed to tackle issues such as poverty, deforestation, and opium cultivation in the Doi Tung area. Through a holistic approach that included promoting sustainable agriculture, reforestation, handicrafts, and eco-tourism, the project significantly improved the livelihoods of local communities.

Sustainable farming practices reduced dependency on opium cultivation, replacing it with crops like coffee and macadamia nuts, providing stable income sources. Handicrafts, particularly weaving, were revitalized, offering local artisans a means to preserve cultural heritage while earning a living. Eco-tourism initiatives showcased the region's natural beauty and cultural richness, attracting visitors and promoting environmental awareness.

Moreover, the project emphasized education and healthcare, ensuring the local population had access to essential services, thereby enhancing their quality of life. Reforestation efforts restored vast areas of degraded land, preserving biodiversity and promoting a healthy ecosystem. The Doi Tung Development Project has turned Chiang Rai into a beacon of sustainability, highlighting the potential for development initiatives that balance human needs with environmental stewardship, contributing to a greener, more sustainable future for Chiang Rai and beyond.



## Natural Agriculture Center DOI IN C

Project to develop a model area for improving the quality of life according to new theories. (CLM)

The integrated landscape improvement plan for the Learning Center and Community Learning Area in CLM Doi Insee, Doi Hang Subdistrict, Mueang Chiang Rai District, Chiang Rai Province, with advisor Phra Ajarn Viboon Dhammatecho, consultant for the seven-part working group in Doi Hang Subdistrict and abbot of Wat Phutthayatan Doi In C , alongside Governor of Chiang Rai, Chiang Rai Provincial Development Office, and Mueang Chiang Rai District Development Office, focuses on the development of a model area for quality of life improvement based on the New Theory with a living bamboo structure and connecting pathways between the Learning Center entrance and nine learning bases, spanning 15 rai, which can become a new tourist attraction in Chiang Rai, and ultimately aims to link the "Sufficiency Economy Development Zone (SEDZ) with a New Economic Model" project to eliminate poverty, develop people of all ages, reduce income inequality, improve quality of life, create jobs, and generate sustainable income for the community and surrounding areas.



Located in CLM Doi In C, Doi Hang Subdistrict, Mueang District, Chiang Rai Province, the Khok Nong Na Community Learning Center is undergoing a remarkable transformation. We are developing the prototype area of the community based on new theories to improve the quality of life. This includes the introduction of a bamboo structure with vibrant pathways connecting the front area of the center to all 9 learning bases. This initiative not only enhances the attractiveness of Chiang Rai province as a tourist destination but also aligns with the principles of 'Protecting Forests, Preserving Dharma, Conserving Wildlife' within the Sufficiency Economy Development Zone (SEDZ).

Additionally, with the 'In C Upcycling Bamboo Pavilion' project, we apply the concept of reusing old items for the benefit of the community, thereby reducing waste and mitigating global warming. This project also supports the creation of 'CULTURARCHITECTURE' and establishes a model and leading development area to promote ideas for sustainable development in other regions.

# GROWING & LIVING ARCHITECTURE



We've use of local knowledge of existing bamboo types and specific types and sizes of...



**Mark 2 Square Lashing**  
a common knowledge local pole size that can't be...  
...the use of poles which...  
...the use of poles...



The biggest part of the research and development of the structures to exactly explain it and finding the most adequate techniques of creating the desired structures and products.



Showing the bamboo and...  
...the use of bamboo...  
...the use of bamboo...



## Upcycling Bamboo Pavilion

The Upcycling Bamboo Pavilion breathes new life into used items and prevents them from becoming waste. By giving these items a new purpose, we provide a breath of fresh air for the environment and at the same time reduce the use of new environmental resources in the production process. In this way, a second life is created for waste materials by transforming them into new, more valuable items, thereby reducing the amount of waste generated every day. Upcycling is a great way to give damaged old items a "second life" so that we value our possessions more over time. This transformation of workflows and manufacturing processes is fundamentally different from the past.

## Growing and living architecture

Modern buildings are usually static and are constructed of brick, stone, wood, or metal on their site. However, the concept of a living and growing building has largely been forgotten. Living and growing architecture can be achieved through techniques such as pleating, where branches are woven together to form a living wall. This creates outdoor spaces and living buildings that continue to grow and become stronger with age. The idea of constructing buildings from living trees can help combat climate change as less energy is required to source, transport, and construct traditional buildings. These structures, grown from fast-growing trees, are not only stable but also self-repairing, environmentally friendly, and able to absorb carbon dioxide naturally.



Recycled materials, including old fire hoses, bamboo, scaffolding, steel pipes, fasteners, and rubber hoses, were used for the structural support of a bamboo pavilion in the DOI IN C PROJECT.

Using ceramic waste as aggregate, evaluating its mechanical properties and permeability, by repurposing waste from garbage and industrial by-products.



Solar drying plant



Herb processing factory



Herbal medicine production factory



Herb Learning Center



Herb farm





## Herbal Valley

The Herbal Valley project in Chiang Rai aims to develop sustainable economic and social growth through cultivating and producing herbs in collaboration with local communities. It focuses on processing high-quality herbal products, utilizing natural resources efficiently, and creating value for the community.

- Herb Farm
- Solar Drying Plant
- Herb Processing Factory
- Herbal Medicine Production Factory
- Herb Learning Center
- Pavilion / Restaurant / Café
- Event Space



## Terracing Herb

- **Contour Farming Definition:** Contour farming involves tilling land along lines of consistent elevation to conserve rainwater and reduce soil loss through erosion. It utilizes furrows, crop rows, and wheel tracks to achieve these objectives, especially in areas where irrigation agriculture is necessary.
- **Principles of Contour Farming:** This method follows the natural contours of the land, creating edges that form water breaks to prevent soil erosion. By cultivating in patterns that are nearly level around slopes, contour farming reduces runoff and promotes water infiltration, making it a sustainable agriculture practice, particularly in hilly and sloped landscapes.
- **Implementation Process:** Farmers level contour districts or slopes through furrowing, creating steps where crops are grown. Water breaks, like small ridges or raised platforms, are constructed around these steps to contain water and allow the soil time to absorb it. The furrowing process involves directing furrows along the land's contour, creating ridges on the slope, and repeating the process until the entire field is furrowed.
- **Benefits of Contour Farming:**
  - **Soil Erosion Prevention:** By cultivating across slopes, contour farming acts as a barrier to slow runoff and allow water to saturate the soil, preventing soil erosion.
  - **Even Water Distribution:** Water is more evenly distributed between furrows, reducing water loss and ensuring better water control, especially during irrigation.
  - **Reduced Energy Costs:** Contour farming can lead to lower energy costs as equipment usage becomes more efficient due to better water control and reduced runoff.

Overall, contour farming is an effective and sustainable agricultural practice that conserves soil, reduces erosion, and promotes efficient water use, making it beneficial for both farmers and the environment.



## The Development of Herbal Gardens in Chiang Rai

The development of herbal gardens in Chiang Rai province is a significant project aimed at creating sustainable economic and social development. The concept seeks to establish a herbal business that generates income for the project and adds value to the community in the following ways:

### **Development of Cultivation and Production of Herbs:**

- Collaborate with local communities to establish cultivation and production sites for herbs in the project area.
- Use organic farming methods to maintain environmental balance and human health.
- Develop a herbal business as a tool to generate income and create livelihoods for local communities.

### **Processing and Distribution of Herbs:**

- The project will purchase quality and standardized herbal products from local farmers to process into high-quality herbal products such as medicines and consumer products.
- These products will be distributed in both local and international markets.

### **Utilization of Natural Resources:**

- Developing herbal gardens in Chiang Rai province will efficiently utilize natural resources by using suitable land and sufficient water for cultivation.

### **Creating Value for the Community:**

- By producing high-quality herbal products through business ventures, the project will generate income and enhance the identity and excellence of the local community.



# Green Heritage :

## A Vision for Agri-Urban Development in ASEAN Cities

During a specific period that lasted several hundred years, they were in charge of managing numerous canals. However, in recent times, fewer people use boats, and some canals have been filled up.

A new theory centred around how humans need to coexist with their geographical region

- Explain the geography
- People need to adapt to their geography
- When people get used to this adaptation, it becomes a culture
- Because of the condition of the geography, the area has its own Indigenous trees
- Weather also plays a role in traditions and cultures, e.g. clothing, etc.
- Basic needs include clothes, food, (taken from local material)

Herbs, which may be boiled, or dried, these traditional practices are passed down through generations and are used for medicinal purposes (The above reflects their lifestyle and becomes culture)

A new theory posits that human societies are intricately linked to their geographical surroundings, necessitating an ongoing process of adaptation to the local geography. As communities adjust to their environments, these adaptive behaviours transform into unique cultural practices. The distinct characteristics of a region give rise to indigenous flora, while climatic conditions significantly influence customary practices, including attire. Essential provisions such as clothing and sustenance are frequently derived from locally available resources. Time-honoured traditions, such as the utilization of indigenous herbs for medicinal purposes, are transmitted across successive generations, becoming integral components of a community's cultural fabric. Consequently, it can be observed that geography and climate intricately shape the way of life and cultural legacy of a given community.



Each local area has unique characteristics, necessitating a customized approach to urban planning that considers not only the past and present but also the future.

In the context of urban development in Asia, it is essential for urban planners to thoroughly understand and analyze the distinctive characteristics of their local environments. By taking into account factors such as historical, cultural, and socioeconomic nuances, the specific needs and preferences of the local population, and emerging technologies like drones that may change traditional transportation, urban planners can design and implement more effective and sustainable urban planning solutions. Embracing an approach that is tailored to the Asian context, rather than rigidly adhering to Western urban planning theories, can lead to more harmonious and practical urban development outcomes.

The Asian blueprint of urban planning often diverges from Western models due to unique cultural, historical, and socioeconomic factors. Here are some key elements that characterize urban planning in many Asian contexts:

- **Mixed-Use Development**
- **Compact Urban Form**
- **Green Spaces and Public Parks**
- **Transportation Integration**
- **Cultural Preservation**
- **Sustainability and Resilience**
- **Community Engagement**
- **Smart City Initiatives**

Overall, the Asian blueprint of urban planning emphasizes a balance between rapid urban growth and sustainable development, while integrating cultural heritage and community needs into the fabric of urban design.



# Green Heritage :

## A Vision for Agri-Urban Development in ASEAN Cities

**Drones have the potential to revolutionize transportation on both macro and micro levels, offering numerous benefits and addressing various challenges in urban development and logistics.**

### Macro Level

- **Infrastructure Relief:** Drones can alleviate the pressure on traditional transportation infrastructure such as roads, bridges, and railways by providing an alternative means for transporting goods and people. This can reduce traffic congestion and wear and tear on infrastructure.
- **Emergency Response:** In large-scale emergencies or natural disasters, drones can quickly deliver medical supplies, food, and other essential items to affected areas, especially where traditional transportation methods are hindered.
- **Environmental Impact:** Drones can reduce the carbon footprint associated with traditional transportation. By utilizing electric power and efficient flight paths, drones can lower emissions and contribute to greener cities.
- **Efficiency in Goods Delivery:** On a larger scale, drones can streamline supply chain logistics by enabling quicker and more reliable deliveries over long distances, reducing dependency on ground transportation and cutting down delivery times.

### Micro Level

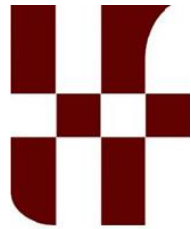
- **Last-Mile Delivery:** Drones can excel in last-mile delivery, providing a fast, efficient, and contactless way to deliver goods directly to consumers' doorsteps. This can be particularly beneficial in dense urban areas where traffic congestion is a major issue.
- **Healthcare:** Drones can be used to rapidly deliver medical supplies, including blood, vaccines, and medications, to hospitals and clinics in urban areas, improving healthcare response times and accessibility.
- **Surveillance and Maintenance:** Drones can be used for regular surveillance and maintenance of urban infrastructure, such as power lines, bridges, and buildings, enhancing safety and reducing the need for manual inspections.
- **Urban Mobility:** On a smaller scale, drones could potentially be used for personal transportation, providing a new mode of urban mobility. This can include drone taxis or personal drone vehicles that can navigate crowded urban environments more efficiently than cars.

By integrating drones into both macro and micro aspects of transportation, cities can achieve a more efficient, sustainable, and resilient transportation network that meets the demands of modern urban life.



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