

Waterfront dwellings in central Thailand

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Development for Waterfront Architecture Conservation and
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Architecture along watercourses...?



**Vast inundation in 2011...
Architecture along watercourses...?**



Vernacular architecture and its local wisdom of living with water...?





Local technology...Lifting up the house





Water Home by PeaceterZero

ส่วนภายใน
-บ้านลอยน้ำ
-ห้องน้ำ
-ครัว
-ห้องนอน
-ห้องรับแขก
-ห้องครัว
-ห้องนอน
-ห้องรับแขก
-ห้องครัว
-ห้องนอน
-ห้องรับแขก

ส่วนภายนอก
-ห้องครัว
-ห้องน้ำ
-ห้องนอน
-ห้องรับแขก
-ห้องครัว
-ห้องนอน
-ห้องรับแขก
-ห้องครัว
-ห้องนอน
-ห้องรับแขก

ส่วนประกอบ
-บ้านลอยน้ำ
-ห้องน้ำ
-ครัว
-ห้องนอน
-ห้องรับแขก
-ห้องครัว
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-ห้องรับแขก
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ส่วนอื่นๆ
-บ้านลอยน้ำ
-ห้องน้ำ
-ครัว
-ห้องนอน
-ห้องรับแขก
-ห้องครัว
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-ห้องรับแขก

Aim:

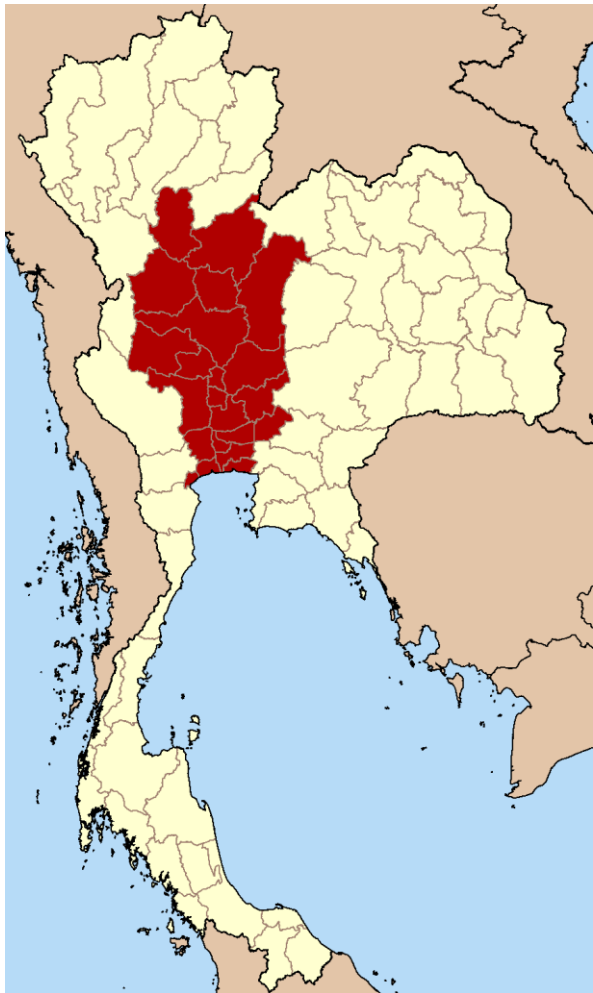
to emphasize an understanding on the relationship of waterfront dwellings and its environment in central Thailand in that people can survive in each environment by using culture as a tool for their adaptation.

“The characteristics of the house surroundings and living atmosphere are usually different in accordance with natural recourses in a particular locality. This is an expression of surviving/dwelling, eating or exchanging.”

Professor Ornsiri Panin

9-11-09





Central Thailand....?

Mostly River basins and inundated during rainy season

- The region has been a central place for dwellings, travel and communication, various interwoven cultures (Thai, Laos, Mon, Muslim & Chinese), and the development of Buddhism.

Linear settlement along the watercourses

The most common characteristics of dwellings in central Thailand



A satellite map of the Gulf of Thailand, showing the coastline and surrounding land. The map is overlaid with yellow text labels. In the top right corner, there is a compass rose with a north arrow and a scale bar. Three small airplane icons are visible on the map, indicating flight paths or specific locations. The text "Settlements in river basins" is centered in the upper half of the image, and "Settlements in estuarine ecosystem" is centered in the lower half. The Gulf of Thailand is visible at the bottom of the image, with its name written in white text. The Google Earth logo is in the bottom right corner, and copyright information is at the bottom center.

Settlements in river basins

Settlements in estuarine ecosystem

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Gulf of Thailand

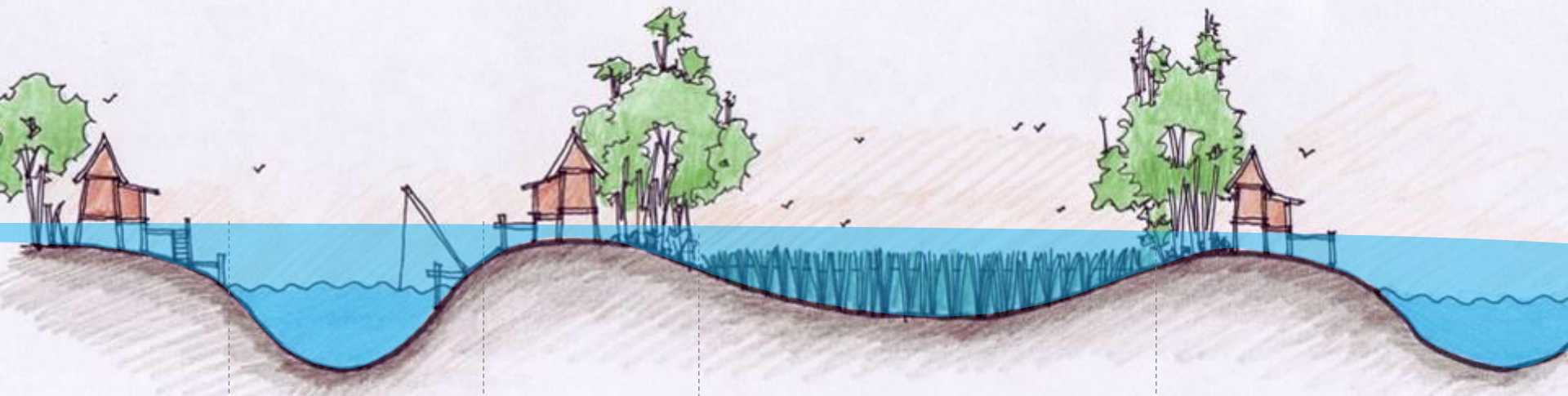
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14°07'02.73"N, 100°31'57.71"E, Elevation: 50m

Google earth

14°07'02.73"N, 100°31'57.71"E, Elevation: 50m

Ecology and settlements in river basins



**Houses &
grove areas**

Canal/River

**Houses &
grove areas**

Rice fields

**Houses &
grove areas**



**Tambon Banmai,
Mharaj District,
Ayutthaya province
(1952)**

Houses and grove areas

Bang Prakeaw canal

Agricultural fields

Agricultural fields

Houses and grove areas

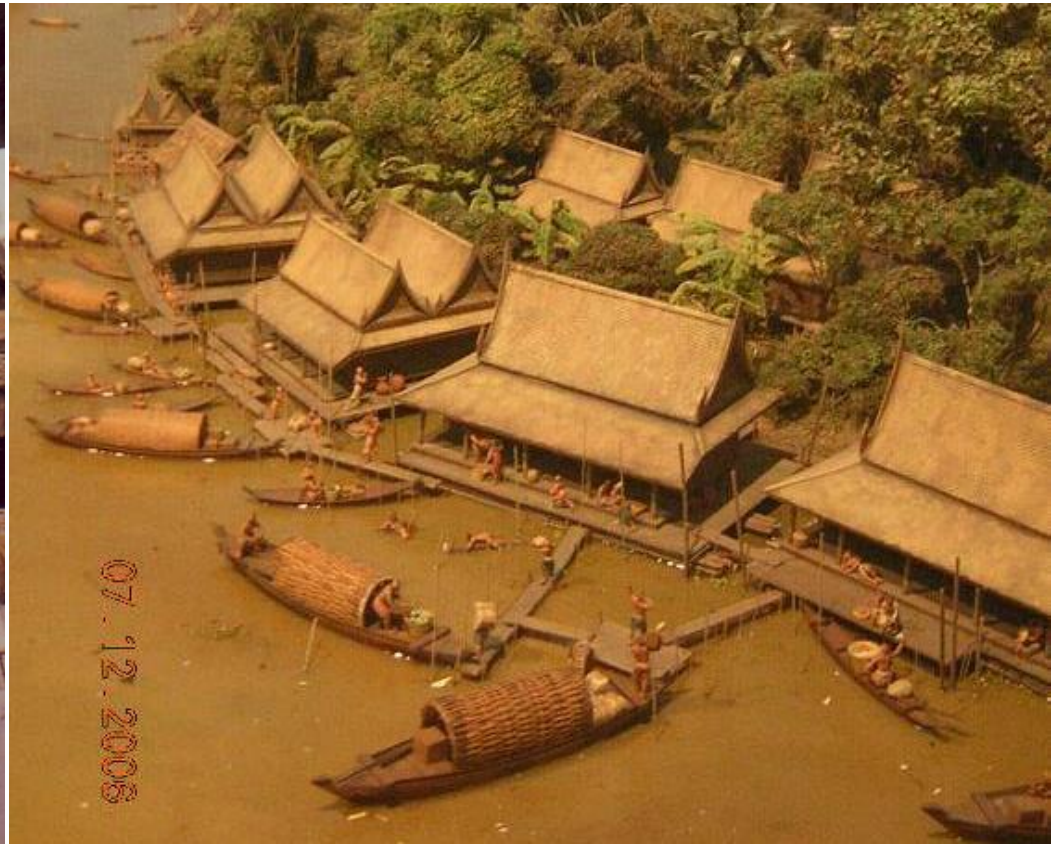
Source:
The Inventory Section of the
Royal Thai Survey Department



**Tambon Banmai,
Mharaj District**
(2002)

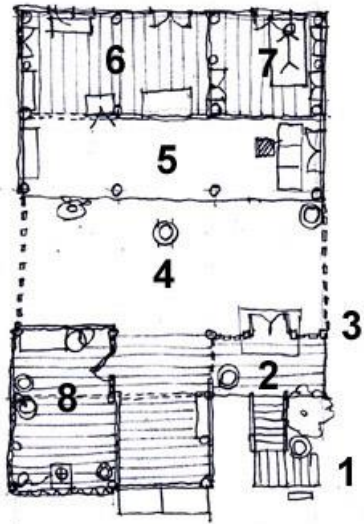
Bang Prakeaw canal





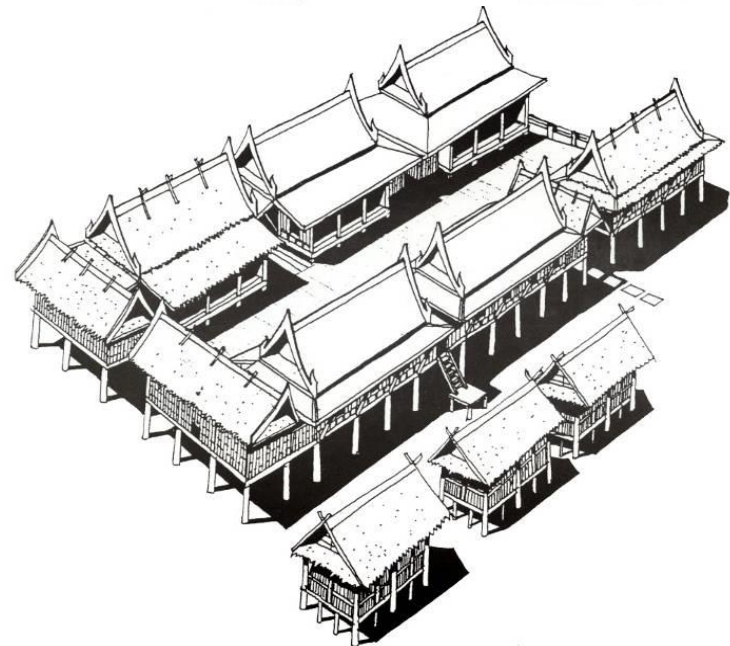
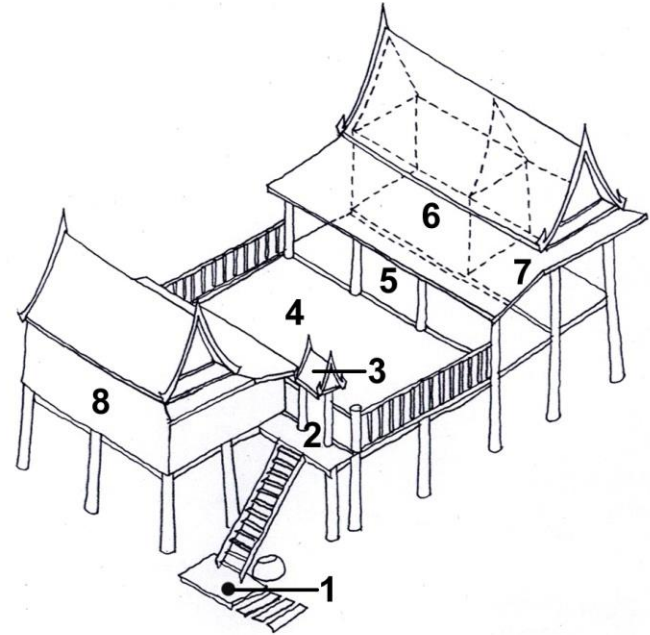
- Traditional houses in this region have been found since the *Sukhothai* period (1238-1368).

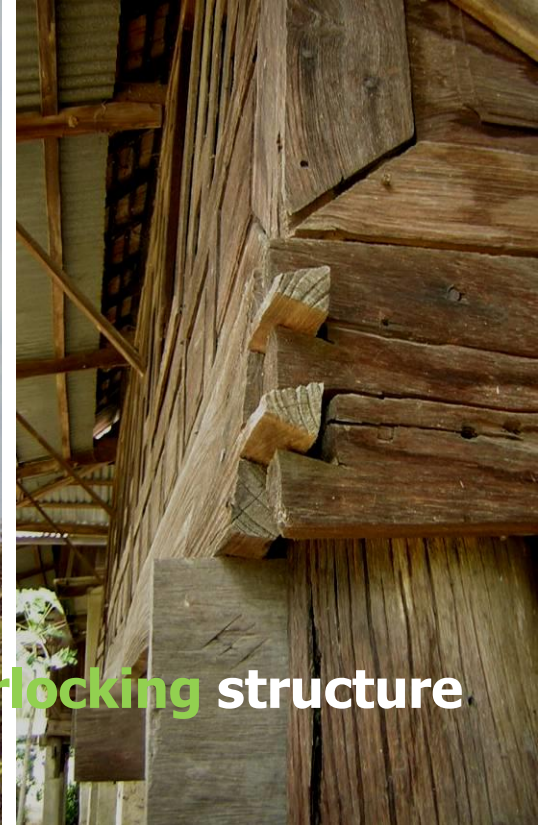
Characteristics of the traditional houses in Central Thailand



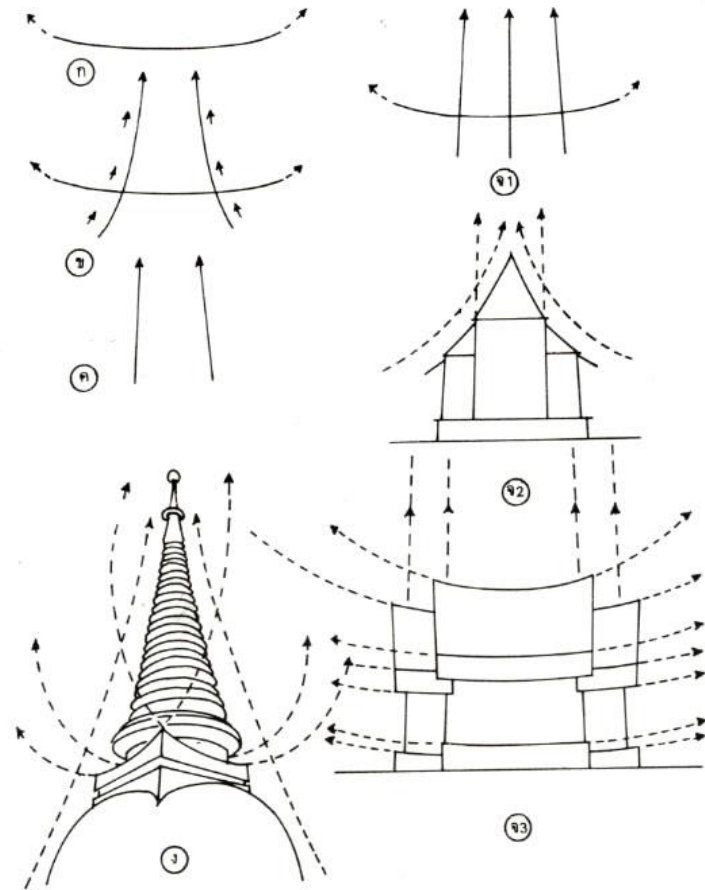
Key

1. A small garden and wooden platforms
2. Entrance platform
3. Gateway
4. Roofless platform (*Nok Chan*)
5. Verandah (*Phalai*)
6. Semi-enclosed room
7. Bedroom (*Nai Reun*)
8. Cooking house





The aesthetic of Thai Buddhist art



The house form elaborates an illusion of the continuity of invisible lines meeting some point in the sky... as if an attempt to reach the highest goal of *Nirvana*.



Common characteristics of the rural landscape in river basins

Bung Bua community, Aytthaya



Amphor Mharaj, Aytthaya

Rice granary

Amphor Bang Pla Mha, Supanburi



Amphor Mharaj, Ayutthaya



Rice granary (Ban La Han Yai, Amphor Ban Lad Phetchburi)

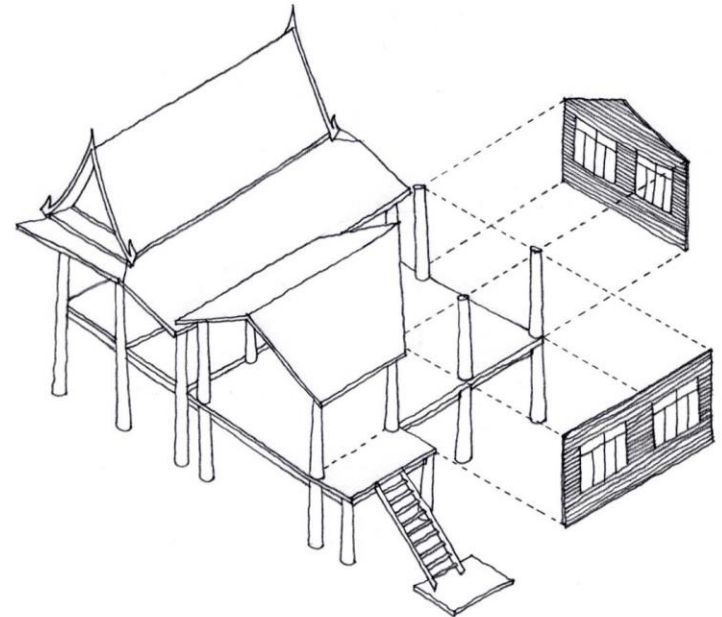
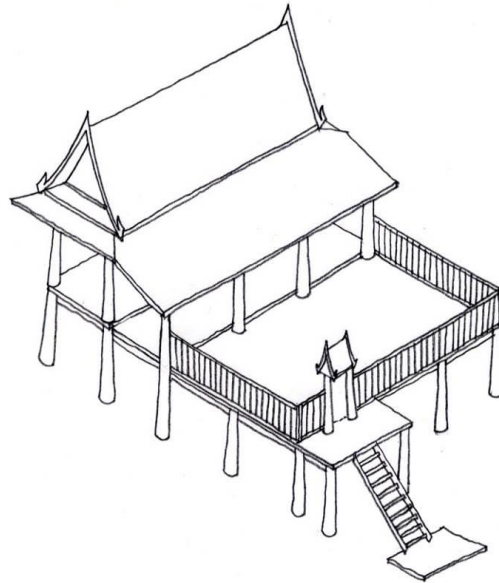




Nowadays of waterfront dwellings in river basins ...?

Changes of vernacular houses in central Thailand

A case study in Ayutthaya





Vernacular houses from traditional structures

Case studies in Ayutthaya





A model to build a new house with traditional styles in central Thailand



The physical growth of the modified houses expresses a loss of the relationship between the houses and the watercourses.



Ladchado market,
Ayutthaya province



Sri Pra Chan market,
Suphanburi province





Settlements in estuarine ecosystem



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US Dept of State Geographer

13°25'26.70" N 100°26'54.02" E elev -13 ft

Bang Lamung
Google earth

Eye alt 85.95 mi

Tha Cheen River

Mae Klong River

Phetchburi River

Chao Praya River

Bang Prakong River

Gulf of Thailand



Common scene of landscape in estuarine ecology



Common scene of landscape in estuarine ecology



Estuarine ecosystem...?

- **Tidal cycle...within a day, 15 days and annual cycle**
- **Cycle of fresh - brackish - salt water**

Significance of fresh – brackish - salt water cycle



“The sea always dresses up...dresses up in every second.”

“...The river streams down. The sea flows up.
When they meet, they generate sediments or alluvium.

This helps to protect its estuary.

Mangrove forests grow up because it is a protection or a buffer zone
for tidal wave.

Young aquatic animals start their life here.”

Surajit Chiravedya, a Senator (from Samut Songkhram province)
31 August 2010

Varieties of ecosystem...

**The gulf of Thailand
is the most plentiful of natural resources & aquatic animals...
and considered as
one of the important places in the world (1 of 10)**

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
© 2012 Cnes/Spot Image

Google earth

13°25'26.70" N 100°26'54.02" E elev -13 ft

Eye alt 85.95 mi

Important resources for economic values in estuarine ecosystem

- Nipa Palm
- Coconut trees
- Mangrove
- Sea water and aquatic animals



Settlements in estuarine ecosystem



Khlong Song Lhong, Samut Songkhram









Architecture built from local materials



Architecture in accordance with the resources in the locality



Coconut orchards



Building for making palm sugar



Charcoal making



ao Yi San 6/12/2010

Charcoal industry at Khao Yisan

Samut Songkhram province

ao Yi San Shrine

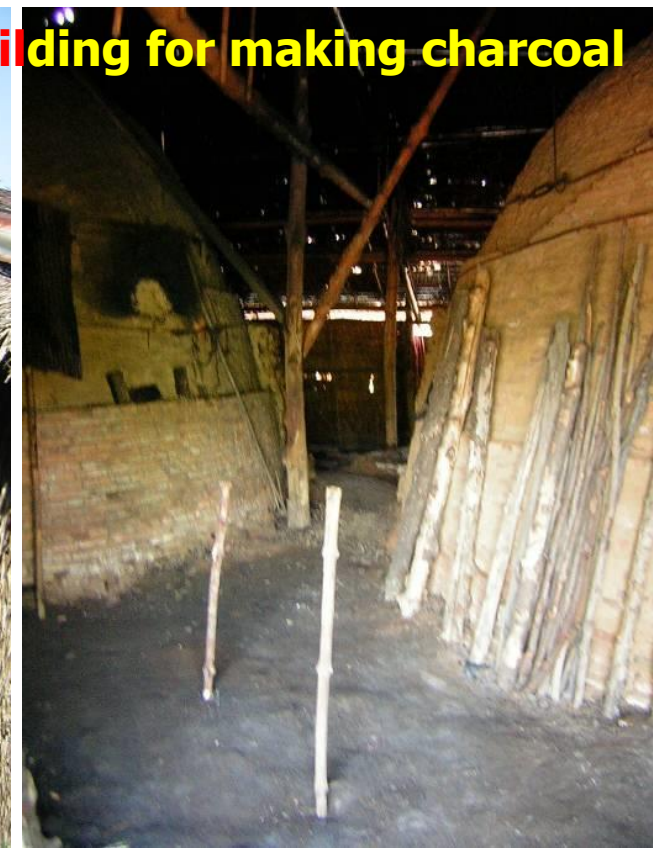


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Google earth



Building for making charcoal





**Woods from mangrove forests
approved for concession**



Boat for everyday living





Industry for boat construction





Inshore community
Ban Lheam, Phetchaburi







Waterfront landscape



Inshore fishing

Amphor Ban Lham, Phetchaburi



Collecting/raising cockle or ark shell

Amphor Ban Lham, Phetchaburi







Green mussel farms



Kra Teng (Architecture that comes with its ecosystem)

a shelter in green mussel farms



Raising pacific oyster



Stake trap
Amphor Ban Lham, Phetchaburi

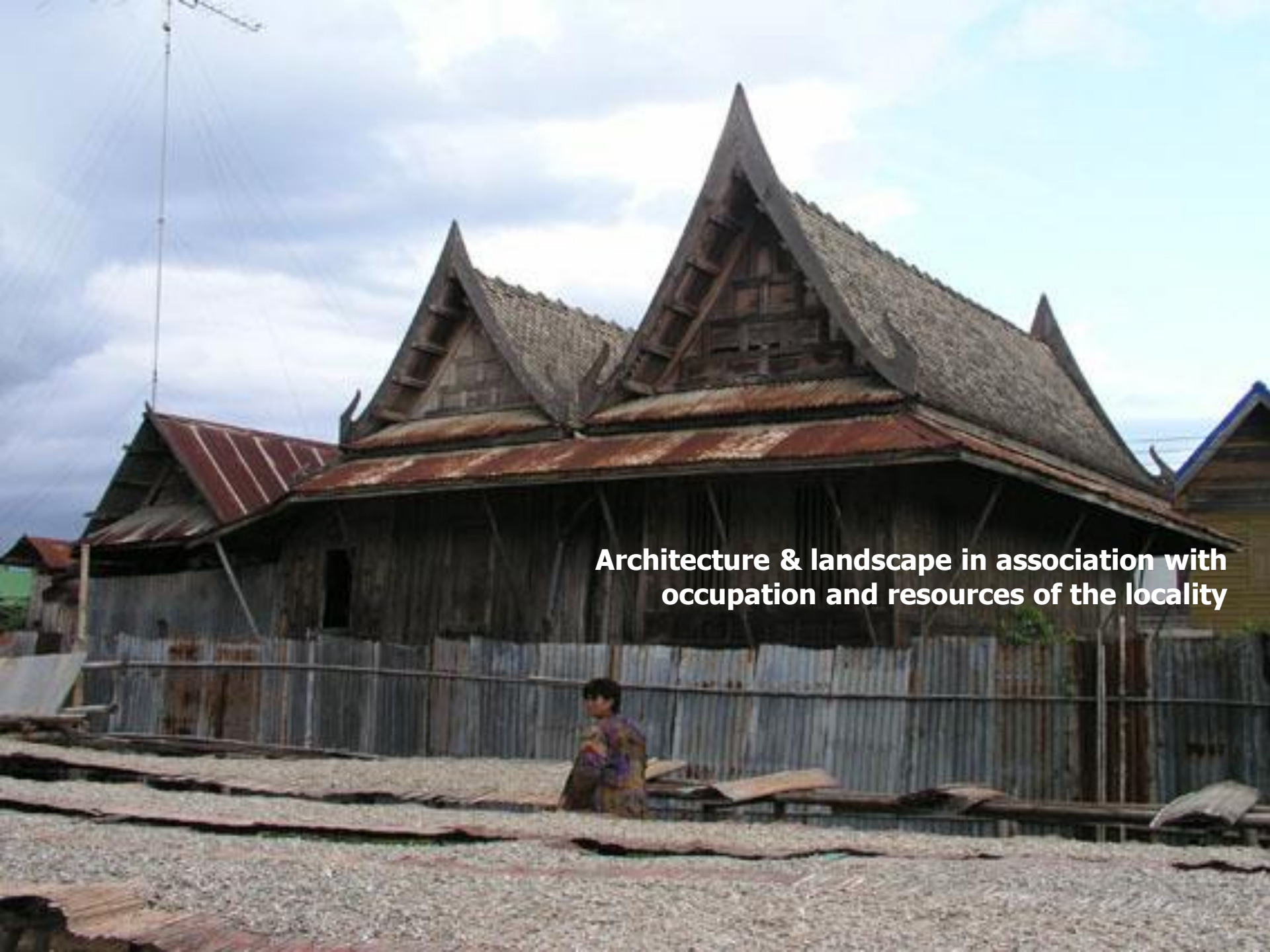


Inshore fishery





Transforming & drying



**Architecture & landscape in association with
occupation and resources of the locality**



Temple/Wat



Chinese shrine



Market





Chinese custom

Varieties of activities and ethnic groups
....expression of local culture and identity

**Waterfront vernacular dwellings in central Thailand,
express the relationship between environment, natural
resources and the ways of people's living by using
culture to create built environments**

...

with mutually depending on each other.

Thank you for your attention

...Q & A...