BANGKOK : RIVER CITY

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ABSTRACT

An international expert workshop *on the theme "Bangkok: River City"* is organized by the Bangkok Metroplitan Administration (BMA) in collaboration with *Les Ateliers*, The Raimond Land and the Faculty of Architecture Chulalongkorn University. The workshop was held in Bangkok Thailand from 1st-13th June 2008. Participants are professionals of different nationalities from specializations such as urban planning, architecture, engineering, geography and design. They were divided into three teams: 1.) Urban Archipuncture 2.)Flowing City and 3.)Bangkok Water City. They competed with the ideas to make the best use of the water network. All teams suggested ideas and projects to develop the water network and surrounding areas focusing on the sustainability of Bangkok. The jury was composed of both local and international experts.

Keywords : *river city / accessibility / sustainable development*

RATIONALE :

For the 225 years since it was established as capital of the country, Bangkok has grown from a small simple fishing village with minor fortifications near the mouth of the river to become a megalopolis of more than ten million residents. The architecture and physical development on both banks of the river reflect the evolution of the city. The corridor of development along the river centers from the Grand Palace and extends north and south to include other royal palaces, important religious buildings, traditional communities, other historical buildings and sites, fortifications, government offices, hotels, hospitals, main offices of banks, new commercial and residential high-rises, old warehouses, and the port of Thailand.

The Chao Phraya River passes through the Bangkok metropolis for approximately twenty kilometers before meandering another fifteen kilometers through the southern floodplains to the Gulf of Thailand. The river divides the metropolis in two, with each side having different urban characteristics. Although the right (west) bank was where the new capital was first established in 1767, after the capital was shifted just 15 years later to the other side of the river, the right bank did not become as urbanized as the left bank. However, the right bank of the Chao Phraya River is now the main location for new developments. The left (east) bank, capital of Thailand since 1782, is the country's historical center, with dense urban development in this area and spreading along the river to the north and south and inland to the east.

The Department of Urban Planning of the Bangkok Metropolitan Authority (BMA) divides the area to be revitalized along the Chao Phraya into four zones: the residential zone in the north, the historical center, the very dense commercial zone, and the old industrial and proposed new CBD of the city The physical appearance of these areas is now a mix of deteriorated structures and industrial sites, among key buildings and sites of historical and religious heritage for the country, as well as new developments.

In 2008, the Bangkok Metropolitan Authority prepared an action plan to implement the concepts expressed by HM the Queen's to revitalize the Chao Phraya River. The plan covers five main activities:

1) improve the water quality of the river;
2) improve the physical image, environment, and landscape of the waterfront;
3) create awareness and promote participation among local residents to realize the heritage and assets of the river, for the sustainable development of the waterfront and related areas;
4) develop rules and regulations to effectuate sustainable development of the area; and
5) promote ecotourism along the river.

In implementing the action plan, the BMA has also sought suggestions and the exchange of experience with international experts. A high priority for the BMA is learning from the experience and recommendations of these experts on how best to revitalize and preserve the heritage of the river.

THE WORKSHOP :

The Bangkok Metropolitan Authority, Les Ateliers Internationaux de Maitrise d'Oeuvre Urbaine, the Faculty of Architecture of Chulalongkorn University, and Raimon Land organized the International Workshop of Planning and Urban Design on Bangkok : River City during 31 May 2008-14 June 2008.

The objectives of this workshop were:

- to brainstorm and exchange ideas and experience among participants and experts from different agencies and organizations, including the private sector and non governmental organizations. The development direction and strategies were explored so that appropriate actions could be applied in the Thai context;

- to provide the opportunity for the participants to learn of similar revitalization projects from international experts;

- to provide participants with the opportunity to be involved in a different, constructive, and creative methodology. The ideology, experience, and methodology could then be employed for use in the Chao Phraya Revitalization project.

There were 152 participants in the project. There were 21 core participants, of whom 6 were from local institutions and 15 were international experts from various fields who joined the workshop to present different planning and urban design ideas to revitalize the Chao Praya River and her riverfront. Another 21 senior experts and academics, both international and local and from different types of organizations, served as jury members to provide comments and suggestions for project implementation. Another 26 local and international staff helped to manage the project. The BMA had 6 senior staff join as observers. On the final day of presentations and discussion, about 90 invited guests joined the proceedings.

METHOD :

The workshop was conducted by using the method of Les Ateliers. The 21 core participants were divided into three groups, each consisting of 2 local and 5 international experts. Each group studied a variety of planning and design issues based on their expertise from different backgrounds and specializations, among them planning, architecture, engineering, economics, and geography. The three teams participated in the full workshop for 15 days to understand the issues and focus of the project, and to analyze and provide the results of their study as proposals to the rest of the participants in the last day. The international jury of senior experts discussed and assessed the proposals, with jury members providing comments and suggestions for the future implementation.

ISSUES AND FOCUS :

The Chao Phraya River is the main waterway flowing through the capital city of the country. The river and its tributaries are also the most important waterways from the north and through the central regional of the country. Similar to many other major cities in the world that have been built alongside a major river, the Chao Phraya river has long been considered to be the main focus for urban development of the capital city of Bangkok. However, in recent decades, in the process of urban development, as the city expanded inland, many aspects of the river and waterfront were neglected. The natural and cultural heritage of the river deteriorated considerably. In 2007, the Bangkok Metropolitan Authority placed *"regeneration of the Chao Phraya River and its urbanization"* at the heart of the city's urban development strategy.

The area is characterized by numerous buildings and sites of historical, religious, and cultural heritage of the city and the nation. Unfortunately, mixed among these are also many deteriorated buildings and abandoned factories and industrial sites. The valuable assets of the Chao Phraya waterfront are indeed the presence of the remarkable historical buildings and sites, important religious sites, and traditional communities, as well as the panoramic view of the area, and more recently improvements of commercial and residential sites. Even greater potential development is evident. Transformation of many run-down properties and the possibility of developing a more effective transportation network and modes are underway.

To regenerate the river and the urban environment along the river is not just a mandate that is specific for Bangkok. In many other great world cities located on the banks of major rivers, we can experience the will to make the river a major focal element of the city. As Jean Labasse declared, after the time of *"sacrificed rivers" comes the time of "the rehabitation of the rivers."* This ideological change can be explained in part because environmental issues and quality of life in the city are being considered more seriously than before. The BMA has placed this issue clearly in the center of the urban development concept of Bangkok, to become a clean and beautiful city.

To help the BMA implement its strategy for the river, issues suggested for consideration in this workshop were:

1) Accessibility, especially alternative routes and connectivity to the mass transportation network: For this, the development of the embankment and access to the river are necessary. Linear access to the riverbanks is now almost impossible. Most of links to the river are perpendicular.
2) Landscape design: The view of the river is an important part of the landscape. Yet many buildings block the view of the river.
3) Mode of transportation.
4) Quality of life.
5) Water quality.
6) Riverfront settlement: Slums have become widespread along the riverfront. Social problems increased in recent years. The urban culture of the riverfront should be recuperated.

PROPOSALS :

The three teams of participants each provided a proposal. The themes of the three presentations or proposals were (1) Archipuncture, (2) Flowing City, and (3) Watercity. Their proposals are presented below. The three presentations were then compiled and summarized by the jury of experts into 4 main themes that could be implemented through 10 projects.

DEVELOPMENT PROPOSAL: TEAM 1
URBAN ARCHIPUNCTURE : Water system as a catalyst

APPROACH: Functional rather than structural, the *"urban acupuncture"* approach proposes to act with specific projects in a selection of hot points in Bangkok. This is a soft approach, which takes care of the context, whose purpose is to drive the development rather than control it.

ELEMENTS OF DIAGNOSTICS

Bangkok is a wild innovative city, that leads to a patchwork City with a lot of attraction and connection points, that all developed "freely". Communities are highly involved in urban projects and negotiations.

The team Archipuncture wishes to maintain this energy of the city, and use potentials and renewals instead of moving things heavily.

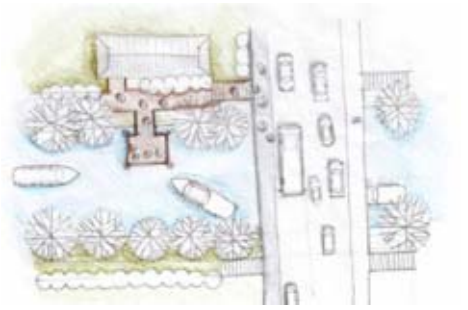
ACTION

"Urban archipuncture" is all about punching the proper project to the right place. Strategic points to act on can be connection points for different flows: water, transport, people. A further analysis can help choosing theses points. Here follow proposals of intervention.

DEVELOP CANALS NETWORK

1) Enlarge the canals: enables to increase the capacity of rain collection during monsoon season.
2) Increase connectivity between the canals, and with the river: enables to support more transport.
3) Increase accessibility by creating walkways, with sand to clean the run-off water.

CONNECT WATER



TRANSPORT SYSTEM

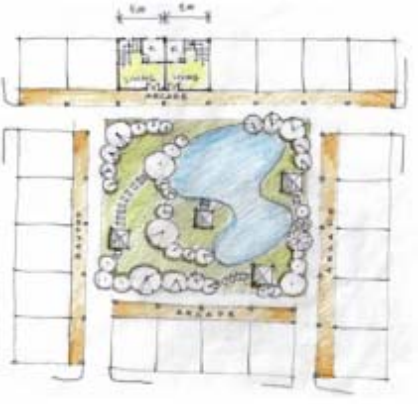
Enable easy connections with other transport modes
Connect to major infrastructural nodes

DEVELOPMENT ON THE WEST BANK

Firstly, create a fast water connection between East and West. Then initiate projects of housings, boardwalks with boat stops, temples and private gardens.

FLOOD MANAGEMENT BY RETENTION GARDENS

Example of a 22-family dwelling unit, with a retention garden in the middle, that can be flooded during heavy rains.



THREE ICON PROJETS

Three icon projects could symbolize the new relationship between the city and its river. One would highlight the link water-transport, the second water and trade, the last water and ecology.

OTHER PUBLIC ENHANCEMENT POLICIES

The team also suggests some public enhancement policies :

- Pre-emption rights from government to consolidate the river space
- Social housing ratios for new constructions.

DEVELOPMENT PROPOSAL: TEAM 2
FLOWING CITY

IDEA: Towards a Flowing City, use the river as the development axis of Bangkok.

ANALYSIS

If before the river was the main artery of the city for providing food, water supply, irrigation and transportation, today the roads guide the urban sprawl towards the hinterland.

The presence of the river is declined due to the fast development of the high-rise buildings and the huge infrastructure along the banks. Now the problematic is how to associate the image of Bangkok and its river and to improve the identity of the city as a flowing city.

ACTION

To move toward the concept of a flowing city, the team proposes the following developments.

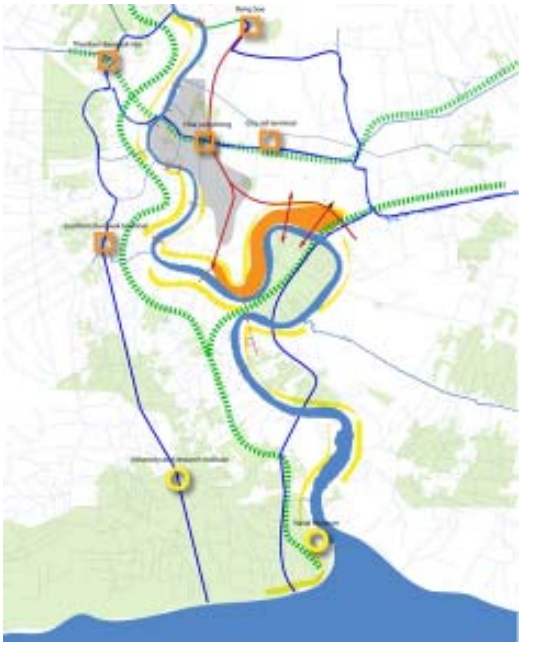
OPEN UP THE CHAO PHRAYA

- Create walkways, pedestrians' connections.
- Open up views from land to the river
- Preserve visual perspectives from the city to the river.

Bangkok Flowing City

TOWARDS THE SEA

Bangkok should develop in the South.



CREATE THE "NEW DOCKS" OF BANGKOK

A Space for experimenting new ways of life on the river

This central project can be developed in 3 temporal phases :

Phase 1

- First floating pontoons and gardens on barges on the river,
- Affordable housing and land-sharing project, slums moved from port to new site,
- First architectural competition on sustainable living on water,
- First Exhibitions in the dockland warehouses
- A new Park starts to be built

Phase 2

- New docks excavated, first cruise ship arrive
- Flowing Park of the Landscapes of Thailand
- First Biennale of Art in Bangkok
- New land released for sustainable housing competitions
- Floating Performance Scene
- First Pedestrian bridge to Blangkrachao Peninsula

Phase 3

- Opening of the Marina
- Two new bridges to Blangkrazao Peninsula
- New museum for the performing arts opened
- New centre for research for the build environment on water

CREATE A STRUCTURE TO IMPROVE THE RIVER MANAGAMENT
Basic principles about the structure:

- A sustainable way of management for the river
- Regional and national solidarity
- Popular participation
- Territorial strategy with all the stakeholders

DEVELOPMENT PROPOSAL: TEAM 3
BANGKOK WATER CITY

CONCEPT: Back to an intensive use of the canal network.

ANALYSIS
Past generations of Thai and Bangkok inhabitants managed to live with the water, learning from nature. Bangkok could come back to this identity in recovering its canals and using them in a modern way.

FACING THE WATER PROBLEMS
3 flows to face : upstream, rainfall (monsoon), and rising of the sea level.

This global issue cannot be thought at the only scale of Bangkok City. The team proposes to build a big dam in the estuary of Chao Phraya, or a big dike along the coast, which could also protect the coast from erosion (like in The Netherlands, Venice or Saint-Louis- Mississippi).

BY RE-CREATING A NETWORK OF CANALS

At the scale of the Greater Bangkok, the solution is to divide the water in as many ways as possible, by making big canals. Then, recreating a real water network, by using the past canals and creating new ones, will give to the city a modern identity linked to its past history.

VARIED USES AND PRIVATE ACCESS TO THE CANALS

Possible uses : Transport, leisure, urban redevelopment, green spaces, waste treatment…

Create a *"green network"* that connects to the water network through houses and perpendicular roads, rather than big public parks or walkways.

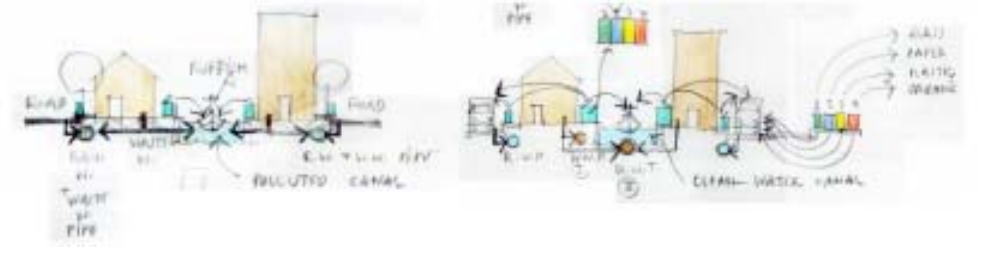
DENSIFICATION

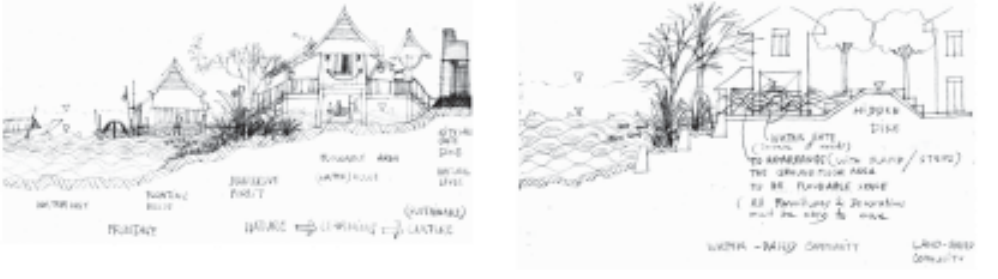
Avoid urbanizing land in the suburbs. The increase of density has to be concentrated in the West of the Chao Phraya and in the South of the city. The new urbanization should allow a maximum of contact between water and inhabitants.

Low and middle-height housing along the river, and high-rise buildings at the back side, mix of private and public housing.

A SYSTEM OF WATER-BASED WASTE MANAGEMENT

Separate rainfall sewers and sanitary sewers.
Participation of Bangkok citizens with personal recycling.





FOUR THEMES AND 10 PROJECTS TO RENEW THE INTERRELATION BETWEEN BANGKOK AND THE CHAO PHRAYA RIVER

At the end of the workshop, the 3 teams of experts gave presentations of their work to an international jury and in front of a group from the public and private sectors. The jury consisted of Thai and international experts from the academic and professional sectors.

What stands out from the jury's assessment and the comments from the local authorities is that the outcome of the workshop is stimulating and mostly original, especially considering that the teams had only a little time to produce their proposals. These proposals are understood as upstream ideas that still need to be verified and studied further, with more accurate research and information on hydrological profile and structure and on construction related aspects such as flood wall, outdoor recreation areas, and landscape, so the concepts can be developed as urban projects.

The jury suggested that 4 prospective concepts or themes be distinguished, which are composed of 10 projects. By undertaking these projects, the city will be able to crete more connections with its river, and thus improve the lives of the inhabitants of the City of Angels. These themes and their component projects are explained briefly below.

1. The River as a Development Axis

The 3 teams used the North-South river axis as the spine of the agglomeration development, promoting its symbolic and historical power. They suggest that this axis should be structure around the current East-West development, which favors the 'wings' of the agglomeration.

Project 1. Infrastructural Nodes
The development of this spine implies strengthening the ties between the city center (Rattanakosin) and the parts of the agglomeration down- and upstream. It also requires linking the North-South structure to the East-West by 'infrastructural nodes.' The Archipuncture team in particular thought about these necessary connections and proposed a general plan to put these connections together.

Project 2. Connectivity
The North-South axis should become a powerful axis for urban transport, reinforcing the existing river transportation system, developing new ways to cross the river, and making better connections with the various land-based transport networks (Flowing connectivity).

Project 3. Towards a global river entity
Making such a river axis implies creating a new dedicated administrative structure, which will avoid piling up different authorities that can contradict or even be in conflict with one another. The Flowing City team proposed a model of a 'River Agency,' based on experiences in other countries that turned out to be efficient.

2. The Chao Phraya River, a Place for Urban Experimentation

Restoring the importance of the river within the agglomeration requires special and innovative projects that will highlight this change. All three teams proposed to implement different urban experiments.

Project 4. Model operation for absorbing shanty towns
Making a new urban center to the South of the current one, using land from the harbor that might be freed by the probable reduction of upstream activities of the port, implies facing the issue of the shanty towns that are located in that area. This is an opportunity to make a model operation of urban renewal. The Flowing City team drafted a plan, with a dedicated architectural typology.

Project 5. Reinventing the relation between housing and canals
All teams worked on regaining the intimacy between water and habitation. In addition to the traditional form of stilt-houses, the Bangkok Watercity team suggested another concept of habitation, which is more land-based, and develops a close connection to the canals. They illustrate this proposition with a project on one trial plot of land.

Project 6. Manage urban planning by location rather than zones
The usual methods of zoning are not sufficient. The Archipuncture team suggests that the usual type of planning should be complemented by a method known as 'urban acupuncture,' which on the one hand tests the local effects of every project, and on the other hand establishes a network of points or dots to act upon.

3. Combine Flood Prevention and Habitation Quality

The BMA currently manages the river with a strategy oriented on flood control, creating Watergates, to protect the city and its inhabitants from the dangers of regular flooding of the Chao Phraya. The three teams endeavored to find new proposals, putting forward the idea that flooding is a feature of Southeast Asia that is part of tradition (stilt houses, rice fields, river embankments), and that the accentuation of water movements should lead us to negotiate with water rather than oppose its power. These propositions need to be supported by hydrological studies.

Project 7. Restore the canals as an urban network
'A water system for a water city and water people': The Bangkok Watercity team suggests a global approach in organizing land and canals, based on 3 actions – set/localize the urban development on the nodes of the canals and the river (intersections and loops), develop water-based transport, and combine the canals with a network of green spaces.

Project 8. The open space of habitation: acceptation and protection
Innovative solutions can combine new elements of quality of life with flood protection. The Archipuncture team develops 'water retention gardens' for urban plots that promote both quality of life (a garden that sometimes becomes a lake by the windows) and a tool for containing floods.

Project 9. Differentiate and prioritize the land use of the river banks
Developing the idea of not combating floods with force, the Flowing City team drafted a concept of land occupation that depends on the distance to the river: stilt houses or amphibious housing in contact to the river, buildings and infrastructure further inland, away from the flood areas of the river.

4. The Conquest of Nature and Sea

Project 10. Create a more natural and maritime riverline Bangkok
Until now, Bangkok has set itself aside from the swampy dangerous seashore, which is difficult to build on. The drawbacks of yesterday, though, can be seen as today's assets, and these swamps are now considered as important natural spaces. Moreover, most of the harbor activity will move downstream to the deep sea, as in every other port worldwide. The peninsula, the new harbor, the new industrial zone, and all renewal in the South will contribute to enriching urban practices of Bangkok. The Flowing City team offers a new vision of the city, with the river the reintroduces nature in town and opens Bangkok to the sea.

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