

## **Significance of Cultural Heritage and Establishment of International Network in Southeast Asia**

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### **Abstract**

The present Old Market and the area in and around Siem Reap City were formed during the French Colonial period. Buildings of the 1920-30's partly remain in the present city. Recently, with the growth of tourism at the Angkor monuments, its frontal base Siem Reap City has changed to being high density, causing crises to historical buildings preservation, former city view and appearance, traffic congestion and environmental pollution. Moreover, there is the risk of a city disaster like large-scale fire that could cause serious damage to Siem Reap. Therefore, we have been conducting a project on "Preservation and Utilization of historical buildings in Siem Reap / Angkor" since 2013.

The objectives of the project are as follows: (1) The area of the UNESCO World Heritage Site and its surroundings can appropriately be called a "City of World Heritage". Much of the city has historical character and an attractive appearance. The former Siem Reap City is developing into an attractive city in spite of the after effects of the Cambodian Civil War. The shop house buildings of the Colonial period, city planning together with the scenery of Siem Reap River, abundant green, and the reservoir present everywhere are charming for the people. Best of all, the sense of continuity between Siem Reap / Angkor is the most attractive aspect that is felt by local people living near the Angkor monuments. However, the process of developing with sustainability was deferred because of the increase in the number of tourists. We need to take these circumstances in account, trying to make the most of historical buildings and scenery to suit the Angkor monuments. Residents, shop owners, administration and tourists should think of ways to create a sustainable "Siem Reap / Angkor" in name and in reality. (2) Siem Reap City is not coping with the rapid congestion in respect of improvements in water and sewerage, urban drainage, infrastructure, embankment protection, street, and firefighting equipment. This tendency becomes more critical, especially because of the danger of occurrence of fire. We would like to develop a strategy to deal with disasters while long-term improvement is undertaken, and assist in initiating joint activities with local people for future city planning. We conducted a survey measuring historical buildings and a survey of local people's views on future city planning in 2013-2014. In 2014-2015, a professional in fire protection joined us while we continued the survey to consider what can be done as protective measures in Siem Reap. In 2015, members of "Establishment of the Network for Safeguarding and Development of the Cultural Heritage in the Mekong Basin Countries" gave their views regarding each country and city. We plan to embark on more practical measures to develop an attractive "Siem Reap / Angkor" complex based on ideas from our studies.

### **Introduction**

About 900 sites are currently registered as UNESCO World Heritage. It is regarded the most successful worldwide treaty as there are 185 countries involved in it. Movements aiming at the recognition by UNESCO are accelerating and it is expected that registrations from developing countries such as Asia and Africa, or registrations based on new concepts will increase in the future. In heritage research, such an increase of registrations is essential to understand the historical cultures of areas or countries under the situation of the 21st century that we are facing, such as crisis of environment, disaster, food, resources, economic

disparity and disputes worldwide. It is expected that the conservation and restoration of heritages will form a foundation for the societies that are exhausted, and will contribute to the recovery of the public space which is the source of the mental unity of people. Moreover, international cooperative activities for preservations are expected to play a big role in international exchange and peace building.

However, it is necessary during the registration to prove the significant universal value and propose a preservation scheme together with its uniqueness. Therefore, activities aiming at the registration will give us an opportunity to reconsider the connection

between the area and the heritage based on the viewpoint of long-term human history and worldwide expansion. It is important to educate people for the task of heritage conservation and its usage even after the registration, and to realize the multidirectional international collaboration system.

#### The features of Preah Vihear in Khmer temple

Preah Vihear Temple, which is located on the Dangrek Mountains that make a distinction from north to west along the border of Cambodia and Thailand, configure approaches, gopuras and other buildings on terraced slope from north to south in succession, the deepest main sanctuary reaching an elevation of about 600m. With the scenery allowing a view of the green Angkor plains, it was important as being the oldest remains of large scale and typical “vertically-oriented layout temple on terraced slope”. On the other hand, as the second World Heritage Site in Cambodia since 2008, Preah Vihear has stacks of tasks to be done over its conservation

#### “Vertically-Oriented” in Khmer temple layout

In the Pre-Angkor period (6th Century: 6 C), as repercussions of India, Khmer temple brought to cave temple along gulf of southern Siam in Cambodia (Phnom Khyang, Phnom Chhngok) and single sanctuary at the top of mountain or mountainside (Asram Moha Russei, Phnom Bayang). These are not only the place for god statues but also the place of worship themselves. The typical temple layout in the earliest period is Sambor Prei Kuk (7-9 C), which complex has composed by long approach, 2 or 3 enclosure and several extra sanctuary and simple gopuras on terraced slope to symbolize the main sanctuary. In this situation, long approach and temple layout that raises terraces slightly emphasize the main sanctuary and the frontality of temple complex. However, as the oldest sanctuary of Sambor temple (7 C) in Sambor Prei Kuk has been placed eccentricity by east of complex, the concept of centricity is not so much perspicuous.

On the other hand, like Vat Phou and Preah Vihear temple layout, there is a method of space handling by constructing approach and the other facilities on terraced slope that uses topographical environments from the foot to the middle and top of the mountain to make the deepest sanctuary or the main god there symbolically. This method is sometimes seen in temple on a flat plain. For example, Prasat Thom in Kor Ker and Banteay Srei are representative. Both

main sanctuaries are surrounded by the outermost enclosure and a circular moat, however in outside of the outermost gopura, extra sanctuaries and vertical rectangular buildings are symmetrically arranged to the central axis of the approach, the successive colonnades are set along the approach, producing a rhythm in the direction. They are not limited to plot specific functions, in addition, to enhance the sacredness on the center of temple as a spatial effect. Hence it can also be called as the “vertically-oriented layout temple”.

To begin with temple architecture, for deification the sacred symbol or god statues, it has a tendency to bring about various devices and decorations inside and to add the hierarchy of spatial composition for uplift the god majesty. For instance, it is easy to understand that Roman centripetal space change to an early Christian Church – Romanesque – Gothic into axial space, but in terms of Khmer temple interior is basically not offered except specific religious ceremony.

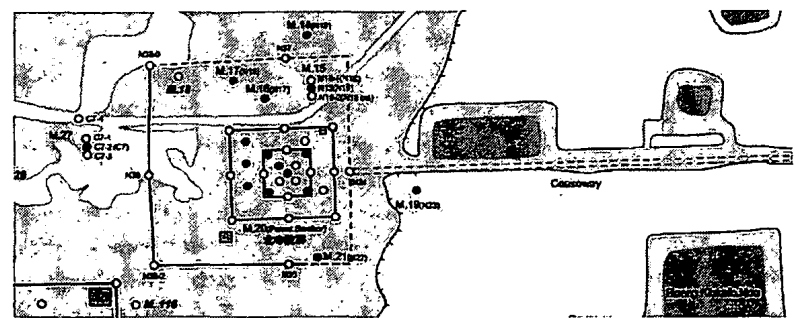


Fig. 1. Sambor Prei Kuk

That is clearly just the worship of rotating around the sanctuary or out of the enclosure to the right, or praying from worship hall in particular. There are 2 types of worship, one has equal weight in every direction and another has emphasis upon the front. Above all, Mandapa that extended to the east-west direction of Banteay Srei, 3 religious towers attached to the front of Bayon, clearly acknowledged that emphasize the holiness, so that can be called as “vertically-oriented” in a sense, but these are merely conspicuous usage examples of ordinary styles of architecture, not an example of elaborated spatial composition. Therefore, exclude these examples from the consideration.

#### “Vertically-oriented” layout on terraced slope

As “vertically-oriented layout temple”, Vat Phu and Preah Vihear are 2 important representatives. The main sanctuary of Vat Phu constructed in early 7th century, and the entire temple complex was carried out in mid-7th to early 8th century

North and south “palace” and a Nandin hall thought to be made by wood at first, but the date of construction is unknown, under the reign of

Suryavarman I (1010-1049) these buildings are rebuilt by stone, and the colonnades beside the approach have constructed later. Preah Vihear also

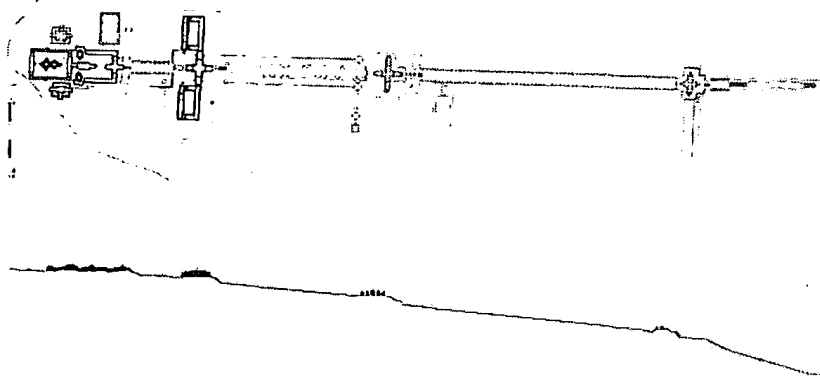


Fig.2 Plan and Section of Preah Vihear

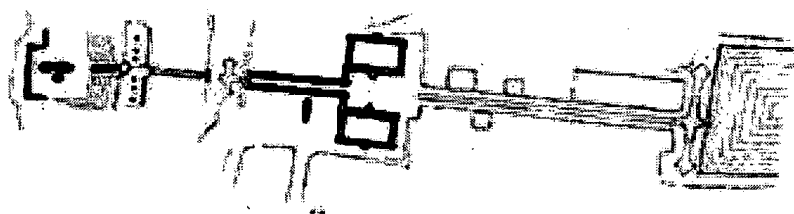
has same circumstances. Initially the approach, wooden main sanctuary and whole temple layout planning are supposed to be established by Yashovarman I (889-915), but this is a hypothesis. The ornamental detail on the lintel of present Mandapa is similar to Banteay Srei. Also judging from the technique of vault roof by bricks of east and west libraries and the magnetic susceptibility of the main room in west "□-shape" building, these buildings may belong to the oldest group in Preah Vihear after the reign of Rajendravarman (944-968). Most of the other buildings would be from the reign of Suryavarman I to Suryavarman II (1113-1150). From the survey results so far, the temple starts from the northernmost foot of the mountain with a grand staircase, continues on to approach, the 5th gopura, approach the 4th gopura, approach the 3rd gopura, approach the 2nd gopura, the 2nd complex (northern half of mountain peak complex), the 1st gopura and the 1st complex (southern half of mountain peak complex). From the outside baseline of the 5th gopura to the deepest backline, the horizontal distance is 693,228mm and all facilities are under the particular overall planning on terraced slope. A line connecting the centre of the 5th gopura to the centre of the main sanctuary is recognized linking other gopuras linearly in high accuracy. Moreover, even though the 1st and 2nd complexes have been planned as a whole, the central line of the 2nd complex fits into the whole central line, but the central line of 1st complex is off to the eastern side. The common characteristics on a gap of the central lines between the main sanctuary and temple complex go through the Preah Vihear Temple that has a remarkably long central line.

Also, on the sectional plan, while going upward and deeper, the techniques have reported that one is

diminishing the difference in height of stairs, the other is keeping an angle of inclination in approaches, and composing the design of pedestal mouldings from rough to minute. On the whole, Preah Vihear Temple has been strengthened as "vertically-oriented" axial space intentionally, and completed in mid-11th century. Similarly, verifying the Vat Phu, shows the whole temple was completed in mid-11th to early 12th century.

*Formation of "vertically-oriented" on the plains*

In the late Angkor period, many complex temples had the character of "vertically-oriented on plains", and as discussed previously that Prasat Thom of



Kor Ker and Banteay Srei are remarkable.

Fig.3 Vat Phu

It can be inferred that the date of founding Prasat Thom is restricted to within 13 years because Jayavarman IV (928-941) transferred and abolished the capital in Kor Ker during under his reign.

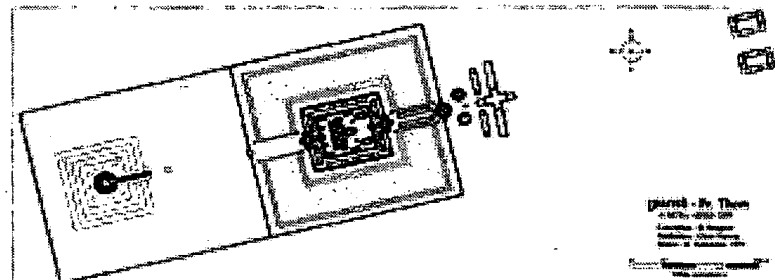


Fig.4. Pr. Thom

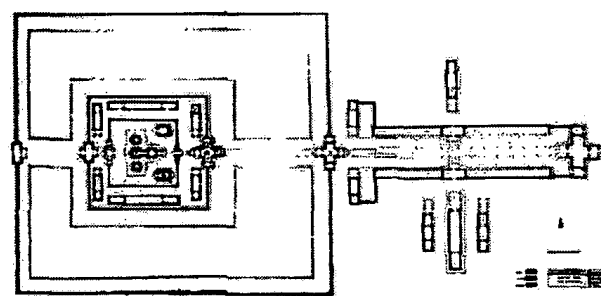


Fig. 5. Banteay Srei

Also, Banteay Srei has constructed by the King's mentor (guru) of Jayavarman V (968-1000), Yajnavaraha. From this chronology, the time of completion for "vertically-oriented on the plains" style looks earlier than for "vertically-oriented on terraced slope" style represented by Preah Vihear and Vat Phu. In this point of view, "plains style" infected "terraced slope style". If this hypothesis is

correct, there are still doubts on from where “vertically-oriented on plains” came, whether a previous wooden temple complex really existed, and if so, when it was completed. As things are, these problems cannot clarify.

#### *Significance of sacred mountain in Khmer temple*

In Khmer ancient city, a capital and a sacred mountain are known as one pair from lots of inscriptions and “zuisho” (one of the Chinese historical book) since Pre-Angkor period. For instance, the relationship among the west riverside of the Mekong, the capital city Shrestapura on the east side of Vat Phu, the sacred mountain Phu Kao rises in northwest direction to the axis of Vat Phu. The connection between a capital and a sacred mountain is widely regarded as an incarnation of belief for ancestors and animism peculiar around Himalayan mountain range and the rice-growing monsoons area in Asia. When the time-honored belief faded, foreign new religion intoxicated and compensated it again, also prepared the city and spatial structure for expressing visually to connect its capital and the mountain strongly. Champasak, a cradle of Khmer people, has brought the original form as a relation of sacred mountain-capital city-the Mekong River, and in Preah Vihear, this form developed obviously and surely influenced “plains style”. The axial space as “vertically-oriented” has spread out from “terraced slope style” to “plains style”. Every time I look at the bird’s-eye view drawing of Mount Phu Kao, Vat Phu, capital city and the Mekong River, I remember that thing. Preah Vihear and Vat Phu as “vertically-oriented layout temple” are important to consider about the whole picture of Khmer temple.

#### **Preservation and Utilization of Historical Buildings in Siem Reap / Angkor**

Present Old Market and the around area in Siem Reap City has formed during French Colonial period. 1920-30’s buildings are partly remained still in present city. Recently, the tourism around Angkor monuments grows splendidly, also its frontal base Siem Reap City changed into high density. It caused crises on historical buildings preservation, former city view appearance, traffic congestion and environmental pollution. Moreover, there is a risk of city disaster like large-scale fire that would be a serious damage to Siem Reap. Therefore, we conducted continuously “Preservation and Utilization of historical buildings



**Fig.6** Bird’s-eye view of Vat Phu

in Siem Reap / Angkor” since 2013. The objectives of this project are as follows:

(1) It is appropriate to call the area of UNESCO World Heritage Site and surroundings “City of World Heritage”. There are many cities with historical and attractive appearance. Former Siem Reap City had a possibility to develop into an attractive city even with the after effect of the Cambodian Civil War. Shophouse buildings of the Colonial period, city planning with the scenery of Siem Reap River, the abundant green, and reservoir in everywhere were charms for people. Best of all, a sense of continuity between Siem Reap / Angkor is the most attractive that is felt in local people living together with Angkor monuments. However, the way to develop with sustainability was deferred because of increase in number of tourists. We need to take these circumstances in account, try to make the most of historical buildings and scenery to deserve for Angkor monuments. Residents, shop owners, administration and tourists would seek its way to create a sustainable “Siem Reap / Angkor” in name and in reality.

(2) Siem Reap City is not keeping up with rapid congestion by development of water and sewerage, urban drainage, infrastructure, embankment protection, street and fire-fighting equipment. This becomes more and more serious, especially because of the risk of fire. We would like to take steps to deal with disasters while long-term improvement is expected, and help to start joint activities by local people for future city planning.

In 2013-2014, we conducted measuring survey of historical buildings and hearing survey of local people on future city planning. In 2014-2015, a fire protection professional joined us while we

continued survey to consider what can be done to protect Siem Reap. Members of “Establishment of the Network for Safeguarding and Development of the Cultural Heritage in the Mekong Basin Countries” proposed the opinion of each country, each city in 2015. We are pursuing more practical activities to make possible an attractive “Siem Reap / Angkor” framing our ideas and studies.

#### **Research system and areas of exchange**

The following four areas were decided as the fields of joint research for this project. We aim at improving academic research methods through specific examples regarding themes and issues in major cultural heritages of the related countries and creating a study on preservation and usage of the cultural heritages, according to each purpose.

1. History and culture: support the creation of basic ideas for value evaluation and preservation
2. Engineering and science: technical support
3. Local community and international relations: social system support
4. Cross-multidisciplinary area: support for promotion of research regarding the relation between the areas and complex issues

We conduct a joint research with our partner university of the related country regarding the local originality of cultural heritages overseas. Concerning the pluralistic and complex issues such as safety manuals for the cultural heritage sites in case of disaster and ideas about standard specifications, we aim at performing broad academic research with internal and external partner organizations and building a network to share the results worldwide. Furthermore, we conduct seminars on site with our partner universities in Japan, Cambodia and Vietnam while coordinating with the Japanese and the related overseas governments as necessary. These on-site seminars give an opportunity to build cooperative relationships through exchanging opinions between students and teachers in addition to attracting students' interests. Therefore, the seminars are one of the most important education and research programs in this project.

#### **Contribution to education of young researchers**

Adaptability toward various issues and highly specialized skills are both required for preservation projects on site. Therefore, we instruct master and doctoral students, whose dissertation themes are related to the individual specialized areas of the

project, to find issues on-site by themselves and adopt them as their assignment in their research. Furthermore, we want them to gain an overview of the preservation project through exercises. Especially, we hope that they will obtain deep understanding of Japanese culture and have respect for the traditions of the related countries. It is expected that students belonging to the laboratories of the coordinators for each of the Mekong basin countries will, in the future, become leaders for the promotion of preservation and restoration projects not only in Japan but also in Southeast Asian countries. In Japan, together with these students, we educate people who can take actions in local governments aiming at improving cities by inviting academic research organizations and international organizations, or with cultural heritages, or in companies planning new business based on local traditions. Each teacher organizes field research and on-site seminars with young Japanese researchers on the major cultural heritage sites as research targets. Then, depending on yearly research result, international workshops and seminars are held in Japan, Cambodia and Vietnam. We encourage young researchers to present their studies in such workshops and seminars as it gives them an opportunity to gain international experience. By making the best use of the project setting, we aim at continuously educating young researchers in Japan and abroad.

#### **Conclusion**

There are many sites along the Mekong River: The cultural heritage preservation project sites which share historical and geographical background, the sites which will possibly be registered for the list of world heritages, and the sites having an equivalent historical value. Based on the possibilities that these cultural heritage sites offer, this project aims at educating people with highly specialized skills and a rich and creative imagination, who can build an international network for educational research and plan for a sustainable and participation type society based on cultural heritage preservation, under the close and multidirectional cooperation system together with academic institutions from participating countries.

This is the outline of this program, but an important question had been left out, “Why the Mekong basin countries?” I have researched on sites of Angkor in Cambodia and Hue in Vietnam for many years. It was a great opportunity to take an interest in them as I have visited the cultural heritages of Thailand,

Laos and Myanmar, each locality and age. The Mekong River appears to have an overwhelming presence in this area of Southeast Asia and the three Indochinese states. However, one wonders why no ancient Asiatic civilization like Indus Valley civilization on the Indus/Ganges basin and Chinese civilization on the Yellow River basin was birthed in these countries. If we take ancient civilization centres like India and China as the 'core', the neighborhood that was influenced directly as 'margin', and the further peripheral region as 'sub-margin', there are common characteristics on tradition and culture formation in the 'sub-margin' areas. For preservation and application of cultural heritage there, we explore the way of contribution to the region potential and the future world culture to solve own problems through international cooperation. We kindly ask for your understanding and cooperation

*This study is based on "a research of Grants-in-Aids for Scientific Research / Scientific Research (A) "Scientific Research on Provincial Ancient Khmer Cities and Temples" (delegate: Mizoguchi Akinori, Meijo University) with Preah Vihear National Authority + Meijo Univ. and Waseda Univ. cooperative team. Our fieldwork was carried out in collaboration with Preah Vihear National Authority"*

*and "JSPS Core-to-Core Program (B. Asia- Africa Science Platforms) Establishment of the Network for Safeguarding and Development of the Cultural Heritage in the Mekong Basin Countries.*

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