

# Management Plan for Preah Vihear Mountain and Its Setting

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Ministry of Culture

And

ICOMOS Thailand

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## Preface

The Kingdom of Cambodia has proposed the listing of Preah Vihear Sanctuary as a World Heritage Site to the World Heritage Centre during the Thirty-First Session of World Heritage Committee Meeting in Christchurch, New Zealand, 2007. However, because Thailand and Cambodia still could not reach a conclusion on the border issue which involved the location of the site thus the Committee decided to postpone the consideration to the 32<sup>nd</sup> session to be held in Quebec, Canada in 2008, and requested Cambodia to provide a complete management plan for the area.

The Cambodian party, therefore, invited experts from Thailand to participate in site survey during 3<sup>rd</sup> – 4<sup>th</sup> January, 2008 in order to carry out the management plan of the Buffer Zone which is in Thai territory. The Thai experts were also invited to meet with international experts who collaborated in the making of management plan for the area in Cambodian territory during 11<sup>th</sup> – 14<sup>th</sup>, January, 2008 in Siem Reap and Phnom Penh. From the meeting, it has been discovered that there are unacceptable scientific inaccuracies in the content of the documents, from the Nomination File composed by the Cambodian party to the Conclusion Report composed by international experts. The Thai experts, therefore, declared dissociation from the international experts group and rebutted the scientific information as mentioned.

Nevertheless, Thailand still realizes that Preah Vihear Temple is a monument which is valuable in terms of history, archaeology, art and architecture. It is a mutual cultural heritage of mankind. In the past, when the border between Thailand and Cambodia did not exist, the people of both lands were related under the same culture as seen in a large number of Khmer influenced monuments which scatter in the areas between both countries. Furthermore, study of indigenous communities, site selection for establishment of the Temple, as well as the relationship between the Temple and its setting in cultural landscape dimension; has revealed several structures and elements which are related to the sanctuary i.e. Sa Trao, the reservoir of the sanctuary; Twin Stupas; bas-reliefs and archaeological site of Mo I Daeng; and evidences of indigenous communities dated circa 11<sup>th</sup> – 12<sup>th</sup> century AD. found at the plain to the north of Preah Vihear Mountain.

These evidences are indicative of mutual exploitation of land and resources by people in these two lands since ancient times. Thus, complete protection of the values of Preah Vihear Temple requires a management plan of the area which covers the adjoining area in Thai territory; therefore, Thailand shall carry on the mission of making the management plan for the setting of Preah Vihear Temple even after our dissociation declaration. Consequently, the Ministry of Foreign Affairs by Department of East Asian Affairs in collaboration with the Fine Arts Department, Ministry of Culture and ICOMOS Thailand have set up a Working Team for Management Planning of Preah Vihear Temple and Its Setting to carry out this task. The management plan is expected to be integrated to the management plan of the area in Cambodian territory in order to preserve the outstanding universal value of Preah Vihear Temple and to achieve a systematic joint development of the area between Thailand and Cambodia under a scientific framework in the future.

## Chapter 1

### Background

The making of Management Plan for Preah Vihear Mountain and Its Setting has resulted from 3 causes :

1. The necessity to make the Management Plan for Preah Vihear Temple area has resulted from the opinion of ICOMOS International on the Thai-Cambodian Border Dispute (ICOMOS, Preah Vihear (Cambodia) No. 1224) and ICOMOS recommendations for both parties to mutually cooperate in these aspects :
  - a) Joint management agreement
  - b) Agreement on opening the border in the future
  - c) Agreement on demining in the area
  - d) Protection of natural forests in surrounding areas, especially the areas which are prone to forest fire in Cambodian territory

The making of this report follows ICOMOS International recommendations in article a) Joint management agreement.

2. The Fine Arts Department has assigned a Committee for Management Planning of Preah Vihear Monument as a responsible body for this specific issue, and has assigned a Working Team for the Making of Management Plan for Preah Vihear Temple and its Setting whose responsibilities are to study, analyse, and make a management plan. This report is the result of work carried out by the Working Team.
3. Thailand has carried out studies of archaeological sites in the vicinity of Preah Vihear Temple continuously, from which archaeological and historical evidences have been discovered which support the values and significance of Preah Vihear Temple. Certain parts of this report may be included in the nomination file to be presented to the World Heritage Committee, so that management planning shall be carried out most prudently for the plan to be most effective for protection of the site.

## Chapter 2

### Values and Significance of the Heritage Site

Analysis of values and significance of Preah Vihear Temple and its setting is necessary for decision-making on implementations in the area. In this case, 4 aspects of values and significance have been analysed, which are : a) Architecture and Site Planning b) Relevant Elements and Ancient Communities c) Integrity and Surroundings, and d) Protection. Information used for the analysis has been obtained from study of inscriptions, both those inscribed on stones and those inscribed on architectural elements which have been discovered in the Preah Vihear Temple grounds and its vicinity; as well as information from archaeological and historical surveys by Thai and international experts who had studied Preah Vihear Temple in former days, including scientific reports of archaeological excavations carried out by Fine Arts Department Regional Office.

#### 2.1 Architecture and Site Planning

Preah Vihear Temple is a Hindu, Shaivism Sect religious place built as a dedication to God Shiva, as indicated in an inscription found on the temple grounds which specifies the name of this sanctuary as “Sri Sikhahesvara” meaning “Lord of the Mountain”, an implication to God Shiva. From inscriptions discovered at the temple and its vicinity, especially an important inscription on door frame of the 2<sup>nd</sup> Gopura (Gateway), the name “Suryavarman I” appears as the builder of the sanctuary. This information is confirmed by the most frequently presented art style and art style of the principal structure, the main sanctuary, which can be classified as Khmer art of Baphuon style, dated middle to late 11<sup>th</sup> century AD.

King Suryavarman I had Preah Vihear Temple established as a place of worship and pilgrimage destination for the people in highland Khmer, which has become the provinces of Ubon Ratchathani, Si Saket and Surin of present day Thailand. The temple faces north, the main access of worshippers. There is a Baray (reservoir) called Sa Trao Pond situated to the north, made by building a sandstone dam across Huai Tani stream which retain water to serve local people in their daily uses. (see 2.2)

The architecture of Preah Vihear Temple is a linear-planned group of structures whose access is sequenced on long axis, from the outermost to the innermost where the most important building is situated. Such planning conform to the location of the monument, therefore, the main sanctuary is set on the highest point of the mountain.



Fig.2-1 Preah Vihear Temple and its setting on Preah Vihear Mountain

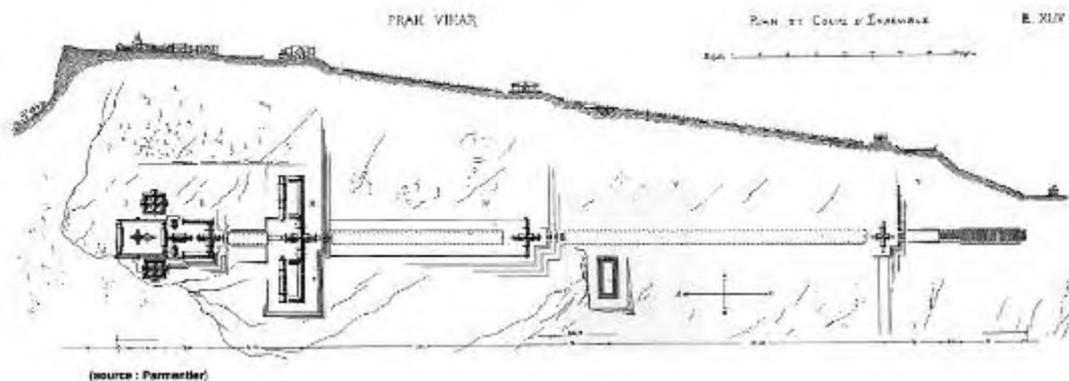


Fig.2-2 Preah Vihear Temple Layout by Parmentier

The setting of elements along the slope of the mountain as mentioned had resulted in the planning of the sanctuary to face north, and the main axis is the north-south axis. The distance from the beginning of the access path on the north to the mountain top on the south is approximately 896 metres, comprising Main Stairs, Naga Bridge, Gopuras (gateways) situated on 5 levels of the slope, causeways and several buildings situated on various levels of stone plain, some of which are made by cutting the natural stone in situ, with the main sanctuary situated on the topmost level.

The main sanctuary is a “Prasat” (Prasada - tiered roof building) with high tiered spire which has entirely collapsed. There are evidences that the corners of the spire were decorated with miniature Prasadas indicating the pre-Baphuon style, however, the building plan is the type found in early Baphuon style, that is, the front of the tiered spire roof hall where image of worship was enshrined in the main

chamber called “Garbagriha”, is built with a long hall called Mandapa. The 2 parts are connected together with Antarala, or antichamber.



Fig.2-3 Main Sanctuary

It is seen that the main sanctuary is surrounded by a gallery. Such continuous gallery is Kleang style, which is connected to Baphuon. On the ground in front of the highest level Gopura situate 2 Bannalais (libraries) on the east and west, each facing the centre toward a hall with free standing columns, a rare example in Khmer architecture.

The enclosed area of the main sanctuary is flanked on both sides with 2 pavilions, each of which is a rectangular-planned building with a central court. The furthestmost of the cliff called Poei Ta Di is a viewpoint to lowland Khmer plain. This area is scattered with evidences of stone cutting sites which had remained in their original, rugged condition. The area is not directly connected to the main sanctuary because the Southern Gopura at the end of the axis does not have any opening to outside.

Several art styles are presented in Preah Vihear Temple i.e. Banteay Srei, Kleang, Baphuon, and Angkor Vat. The most dominating style, however, is Baphuon style, circa 11<sup>th</sup> century, the reign of King Suryavarman I. The most distinct evidence is seen in the Naga Bridge flanking by bald-headed Nagas, a unique identity of Baphuon. The presence of earlier styles as mentioned could be indication of the period as a turning point when preferences in certain older styles still prevailed. Nevertheless, structures of Angkor Vat style are believable to be later additions.



Fig.2- 4, 2-5 Naga Bridge and Baphuon style Nagas

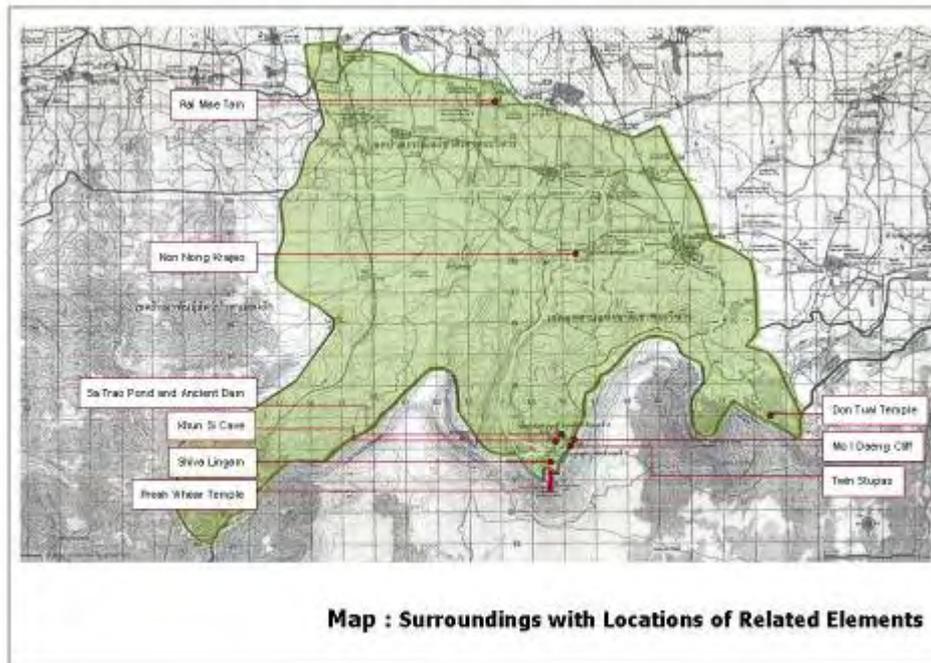


Fig.2-6 Distinctive architectural features of Preah Vihear Temple

Apart from the carving designs on gable panels and lintels which are indicators for dating of Preah Vihear Temple, the decorative gable ends in shape of outward curving whorls, an imitation of wooden building roof decorations, is another rare feature seen in Banteay Srei, Prasat Phnom Wan in Thailand, and some other older sites i.e. Koh Ker, or Preah Ko. The interesting point is the mix use of the whorls and Baphuon bald-headed Nagas, which is a unique style found only at Preah Vihear.

## 2.2 Related Elements and Ancient Communities

Apart from Preah Vihear Temple complex proposed by the Cambodian to be listed as a World Heritage Site, the Preah Vihear Mountain and its vicinity, especially those in Thai territory, are situated with several monuments and archaeological sites which are related to the temple as follows :



### Shiva Lingam Engraving

A Shiva Lingam engraving is situated on top of a sandstone hill in front of Preah Vihear Mountain. Its location is directly in the centre line of the main axis of Preah Vihear Temple, from which the Main Stairs, Naga Bridge, and Gopura of the lowest level (Gopura V) are clearly visible. The image is a bas-relief engraved on natural sandstone, small size, depicting a Shiva Lingam enclosed within a Yoni Base with a projection on northern side as is typical of the setting of Shiva Lingam.

It is known that Shiva lingam is symbol of God Shiva, one of the highest Gods in Hinduism. This fact is relevant to the establishment of Preah Vihear Temple as an abode of God Shiva; therefore, the location and meaning reflect the significance of the engraving, which is believable to be related to Preah Vihear Temple. Thus the image should be a contemporary element, circa 11<sup>th</sup> century.

During a ceremony, Brahmins would pour water onto Shiva Lingam. The water flows through the Yoni Base and Somasutra channel and becomes holy water. Thus this Shiva Lingam, apart from being a mark of the main axis, could have been a centre of an open sacred ground where ceremonies were held. The ceremony could be the first ceremony performed before entering the temple, or ceremony performed simultaneously with that held at the temple but participated by people of lower social hierarchy.

All holy water from the stone plain flowed to Huai Tani, passing Sa Trao toward communities and agricultural area at the mountain base. It is, therefore, the same concept as the engraving of Shiva Lingams and Reclining Vishnu at Phnom Kulen and Kabal Sapien in Cambodia. In Phnom Dang Rek area not far from Preah Vihear Mountain, there is also a site of Reclining Vishnu image created by the same belief.

It is also noticeable that the location of this Shiva Lingam is in straight axis to the Twin Stupas on eastern direction.



Fig.2-7 Shiva Lingam engraving on stone plain, whose location is on centre line of the main axis to Preah Vihear Temple

Fig.2-8 View from Naga Bridge toward Sa Trao and stone plain, location of Shiva Lingam.

#### **Ancient Dam in Sa Trao Pond Area**

Sa Trao, or Sa Krao, is an ancient reservoir situated on the northern axis of Preah Vihear Temple. The pond is visible when looking down from the Naga Bridge. Its shape and size vary depending on the amount of water in each season. This pond, or reservoir, was created by building a dam to the north, blocking Huai Tani stream that flows along the valley of Preah Vihear Mountain. The dam comprises 2 parallel walls built of sandstone and the space in the middle of the walls was filled with sandy soil, resulting as a reservoir on stone plain that retained water before letting it overflow to Phum Srol village situated on northern lowland.



Fig.2-9, 2-10, 2-11 Sa Trao and Preah Vihear Mountain / ancient dam, the oldest stone dam in Thailand

This ancient dam measures approximately 220 metres long, 40 metres wide, and 5 metres high (remains of the walls on northern side). Each wall was built by cubic sandstone blocks which could have been obtained from stone cutting sites in the vicinity.

At present, the southern wall of the dam still remains in original condition as seen in its edge on western side. Most of the stone laying also remains as original, although they are submerged under water level.

The northern wall remains in its unexcavated state. The middle of the wall has been broken into a hole, which might have been caused by erosion, where small amount of water still flows through in the present day.

The western and eastern sides of the reservoir are traces of double walls built of stone and filled with packed soil, which are believed to be ancient directional walls to control water to overflow to lower streams in flooding season.

From survey and study of ancient dams in Thailand<sup>1</sup>, 11 ancient dams or water barriers have been discovered. The dams as mentioned were built in Dvaravati, Lop Buri, Sukhothai and Ayutthaya periods, circa 6<sup>th</sup> – 17<sup>th</sup> centuries, most of which are earthen dams, except the Phra Chao Prasat Thong Dam in Saraburi province built in Ayutthaya period, which is a rockfill dam. Therefore, it is quotable that the ancient dam of Sa Trao is the only dam built of sandstone with earth core, being the oldest dam of this type in Thailand built in Khmer cultural influenced period, circa 11<sup>th</sup> – 13<sup>th</sup> centuries.

The stone laying features of the retaining walls of the dam clearly indicates the influence of Khmer culture, both in terms of materials and construction techniques. Furthermore, the stone cutting sites found in its surroundings show the stone cutting techniques which do not differ from those found on top of Preah Vihear Mountain or other stone cutting sites in Khmer culture, therefore, it is believable that the dam was contemporary with Preah Vihear Temple.

In the past, Sa Trao area could have been a natural stone plain similar to that on top of Preah Vihear Mountain. Upon construction of the temple, the area was chosen for building a large retaining wall to block water flowing route to create a large reservoir. Such exploitation of natural feature conforms to the Khmer concept in establishing a temple that, for each temple, a Baray (reservoir) must be built as a public utility for people who lived in the vicinity. Position of the Baray is usually in front of the temple, and in case of Preah Vihear Temple, the reservoir is situated in the north.

There are several stone cutting sites found in the surroundings of Sa Trao whose stone cutting techniques are the same as those found in the area of Preah Vihear Mountain.

#### **Ancient Dam near the Main Stairs**

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<sup>1</sup> By Acting Sub-Lieutenant Phitthaya Damdenngam, Archaeologist, Fine Arts Department.

In the area near the ground in front of the Main Stairs, a pond and an ancient dam are situated to the west. The dam is located at the western edge of the pond whose construction techniques are the same as Sa Trao Dam, with double stone walls filled with packed sand, but smaller in size. The stream that flows behind this ancient dam has become Huai Ta Maria, flowing northward to villages on the border.



Fig.2-12 Ancient dam near Main Stairs

Although this dam is smaller than the dam at Sa Trao, it is an important monument which is related to, and has relevant history of construction with Preah Vihear Temple as clearly specified in the Plan for Registration of National Monument of Preah Vihear Sanctuary made by the Fine Arts Department in 1959.

At present, the dam is unexcavated, however, its stone laying features are clearly visible. It is expected that the dam still remains in its original and complete condition, whereas the pond has become lowland, unable to retain water, and still in minefield area.

#### **Mo I Daeng Cliff Archaeological Site**

Mo I Daeng is a sandstone cliff adjacent to Preah Vihear Mountain on northeastern side. On the cliff, there is a stone projection like a shelter under which is engraved with bas-relief images date circa 10<sup>th</sup> century, Koh Ker style. Furthermore, the whole range of the cliff is viewpoint for viewing panorama of the lowland with its abundant forests and the Sattasom Mountain on the opposite direction.

The topography of Mo I Daeng is a stone plain covering a rather vast area, from the cliff to the stone plain in the middle of the valley near Sa Trao on the west, which is separated by Highway No. 221.



Fig.2-13 View of Mo I Daeng Cliff and verdant forest

Evidences of stone cutting are scattered on the stone plain of Mo I Daeng, as seen in the area near Pha Mo I Daeng Operational Centre, 23<sup>rd</sup> Ranger Special Unit, where traces of stone cutting, 3 – 5 metres in length, are visible. It should also be noted that the stone blocks cut from this site were of very large sizes, which could have been used for building important structures.



Fig.2-14 Stone cutting site at Mo I Daeng

#### **Sathup Khu (Twin Stupas)**

Sathup Khu or Twin Stupas comprises 2 identical structures standing side-by-side on north-west axis, parallel to the main axis of Preah Vihear Temple, on the vast stone plain to the south of Mo I Daeng Cliff. Situated at a distance from the Twin Stupas to the south is a mountain pass called “Chong Bandai Hak” (Broken Stairs Pass), which is another access connecting the Preah Vihear Mountain top to the lowland. The stupas are built of sandstone blocks finely laid to form square-shaped structures, with rounded-top roofs, each one built of a single block of sandstone. Each structure has neither doors nor windows; however, there are large holes in the walls of both stupas caused by illegal treasure seekers. Thus the inside of each stupa is visible as a chamber where an image of worship, probably a Shiva Lingam, was installed on Yoni base made of sandstone. However, the objects have been lost, but a Yoni base still remains in the southern stupa.

The features of the buildings as enclosed structures enshrining Shiva Lingams and Yoni Bases inside clearly indicate that the objects of worship were installed simultaneously with the construction. Furthermore, because the structures were built on natural stone plain, there is no problem of settlement. Thus, apart from the holes made by intruders, the monument still exists in almost perfect condition.

These structures are considered to be highly valuable in terms of history and archaeology because monuments of the same features have never been discovered at any other places or archaeological sites in Thailand. Although the images have been lost, it is believable that the structures were built as part of a sanctuary as a dedication to Hindu Gods. Apart from the Yoni base which still remains in the chamber, the shape of each stupa is also a reminiscence of Shiva Lingam. The fine craftsmanship, using large blocks of materials, indicates the intention in creating the structures. Although the exact date of the monument is still unknown, it is believable to be relevant to certain periods of construction of Preah Vihear Temple complex, possibly during Baphuon and Angkor Vat periods.



Fig.2-15, 2-16 Sathup Khu (Twin Stupas) / Location on Preah Vihear Mountain

### Mo I Daeng Rock Art

The Mo I Daeng rock art is an archaeological site recently discovered in 1987 by Border Protection Ranger Unit, Amphoe Kantharalak, Suranari Brigade. The art at Mo I Daeng comprises bas-reliefs and engravings, which can be categorized in 2 groups.

Group 1 comprises 4 images in total; 3 images are bas-reliefs and 1 is line engraving. The 1<sup>st</sup> – 3<sup>rd</sup> bas-reliefs are human figures sitting in a row, depicting a man flanked by two women in twisted perspective, that is, the lower part of the body is seen from the side but the top part is seen from the front. The man in the middle sits with his right knee up, left leg folded on the floor, right arm laid on the right knee, wrist lifting, holding a whisk-like object in the hand. He wears a frame-like and high, cylindrical headdress which encloses the face, flowers behind the ears, dangled earrings and the face is engraved with moustache and beard. There are ornaments around his neck and arms, which may be seen as collar and sleeves decorations, and wears short pants with high border. The height of the figure is 91 centimetres.

The first female figure, sitting to the right of the man also sits with one knee up, turning towards the man, with raised hand and folded elbow. The details are unclear, probably unfinished but there are traces of headdress, double hair buns, dangled earrings, and an object, probably a whisk, in the hand. The face is not very pretty, having a rather sulky look with downturn corners of the lips. The height is 90 centimetres.

The second female figure is on the left hand side of the man. Sitting with one knee up, left arm straight, right arm laid on the knee, holding a whisk-like object in the hand. Details also appear unfinished, however, the shape of the bosom, the oval face, aquiline nose, pretty, and slightly smiling countenance are perceptible. There are also a headdress, high hair bun, and dangled earrings. The height is 84 centimetres.

At the opening above the heads of the figures is an engraving depicts an animal figure, which looks like a rhinoceros seen from the side, facing north.

The bas-relief of 3 human figures was interpreted by Prof. Jean Boisselier, a French expert, that the human figure represents Kubera, one of Lokapalas who is the guardian of the North direction, indicated by the flowers behind both ears according to the fashion of Yaksha, because Kubera is the Lord of Yakshas. Nevertheless, some scholars interpreted the figures to represent high-ranked people rather than gods. Based on iconography, the figures are dated circa 10<sup>th</sup> century, or older than Preah Vihear Temple.

Group II rock art is located approximately 4 metres to the north of the first group. This group comprises engravings which depict a seated human figure under Naga flanked by 2 animals, one of which is engraved only the head, probably unfinished. The human figure under the Naga, whose height is 65 centimetres, is probably Varuna, the Rain God, who is the guardian of the West in Hinduism. The Naga appears to belong to Baphuon art style. The engravings are seen to be carried out before cutting the rock into a rectangular frame, which indicate the intention on creating the work, however, the cause of the work being unfinished is unknown. Dating of this group of images is circa early 12<sup>th</sup> century, after the creation of Group I.

Survey of the existing condition of the rock arts has shown that some parts of the stone are flaking off, therefore, in order to prevent disturbances or further damages, Khao Phra Wihan Nation Park has closed the area with a gate made of steel bars. Nevertheless, the images are still visible from outside the gate. The National Park has also had a staircase made to enable visitors to go down to the rock art site, which is a good management scheme that conforms to both natural environment and cultural heritage.



Fig.2-17, 2-18 Mo I Daeng bas-reliefs

### Tham Khun Si (Khun Si Caves)

Tham Khun Si, or Khun Si Caves are natural sandstone caves where evidences of adapting natural features to serve as dwelling are found. The caves are located on the route of Huai Tani stream before it reaches Sa Trao pond. In flooding season, the stream becomes a 2-tiered waterfall. The site comprises 2 caves, namely, the Upper Khun Si Cave and the Lower Khun Si Cave. The upper cave's mouth is on the west, measures 17 metres in length and 1.75 metres in height at middle, and the cave is 7.2 metres deep. Along the length of the top part of the cave's mouth was cut into a groove to prevent rainwater getting into the cave and upper part and lower part of the cave's mouth were bored into holes, which could have been used for placing wooden rods as structures of a partition in order to use the cave as a dwelling. In the middle part of the ceiling of the cave's mouth is engraved with a long line curving into an elliptical loop at one end. Prof. Kongkaew Wiraprachak, Expert in Ancient Language, Fine Arts Department, gave an opinion that the engraving could be a symbol in Hinduism. Besides, from verbal information obtained from local people, there used to be a brick wall in the cave. The ceiling of the cave is thickly covered with soot, indicating a long period of continuous dwelling.

The Lower Khun Si Cave is located at the lower part of the waterfall. The mouth of the cave faces north, measures approximately 23 metres in length, and 1.70 metres in height at middle, and the cave is 14 metres deep. The upper part of the cave's mouth has 2 grooves cut, similar to that of the upper cave.

Human adaptation of the natural caves for dwelling is hypothesized to have been before, or contemporary with the construction of Prea Vihear Temple.

At present Khao Phra Wihan National Park has made a route to Khun Si Waterfall at the Lower Khun Si Cave area, however, the access to the upper cave is still inconvenient.



Fig.2-19, 2-20 Tham Khun Si and traces of adaptation for dwelling

### Prasat Don Tual

Prasat Don Tual is an ancient monument situated on a stone plain at the edge of a precipitous cliff of Don Tual Mountain, east of Sattasom Mountain. Location of the monument is the viewpoint for observing the entire area of Preah Vihear Temple and Preah Vihear Mountain on its western side.

Prasat Don Tual comprises a group of buildings, whose principal structure is the main sanctuary. The plan of the main sanctuary is indented cornered square, built of laterite from the base to above the door, and the upper part of the walls and roof spires are built of rubbed bricks. The roof spire is 4-tiered, whose topmost part made of sandstone has collapsed to the ground. The building is has a door on eastern side and blind doors on other 3 sides. Inside the Garbagriha, the base of an image still exists.

Extended from the main sanctuary to the east is a hall with rectangular plan, paved with laterite, the interior is supported by 2 rows of 4 laterite columns with sandstone capitals. The base of the building is built of laterite, extending from the main sanctuary. The walls are made of brick. There are 3 entrance gateways. On the frames of the middle gateway, which is the largest, are inscriptions on both sides. The roof of the hall is believed to have been gable, wooden structured and finished with terracotta tiles indicate by holes at the 4 columns and the grooves made in shape of gable roof on the wall of the main sanctuary. In front of the hall is an entrance hall with rectangular plan supported by 4 sandstone columns with carved capitals, which could have supported the wooden structures of the roof. Furthermore, there are crescent-shaped stone steps placed in front of the middle doorway and the entrance hall.

On the southwestern direction of the main sanctuary situates a Bannalai (library) with rectangular plan. The lower base is built of laterite, and the upper part of the base is built of sandstone, however, all walls had collapsed that the features are non-existence.

To the west of the main sanctuary stands a low laterite base in rectangular shape, the middle of which is cut into a square hole surrounded with square and rectangular holes in 8 directions. At approximately 50 metres away to the east of the main sanctuary situates a pond, whose dykes are the only remaining parts. Besides, to the south in the cliff area is located with remains of stone cutting site.

### Prasat Don Tual Inscriptions

Inscriptions on both sides of the main door frame are important historical evidences. The inscriptions specify the date 1002 A.D., the last year of the reign of King Udyadhyavarman I, who was overthrown by King Suryavarman I who attacked Angkor and ascended the throne. The inscriptions also announce for arrestment of runaway slaves, including the statement on punishments for those who neglect their duties in disseminating the announcement as mentioned. Thus it is conclusive that the date of the monument is circa 11<sup>th</sup> century, contemporary with the construction of Preah Vihear Temple in the reign of King Suryavarman I.

Prasat Don Tual is an important monument that has been registered as National Monument since 1935. The monument has been excavated and restored by the Fine Arts Department, however, recent survey indicates that some part of brick structures are decayed, some parts of sandstone columns have fallen down, and demining had been carried out only in the area around the monument complex. Besides, the access to the monument is from the west, which is the rear, and between the monument and the cliff, which comprises a stone cutting site and a good viewpoint for observing the forests and lowland in Cambodian territory, are separated by an asphaltic road



Fig.2-21, 2-22 Prasat Don Tual

Fig.2-23 Inscriptions on door frame

### **Ancient Communities**

The setting of Preah Vihear Temple was situated with ancient communities. Although thorough studies on the subject have not been carried out, there have been verifiable evidences that indicate the founding of communities during the establishment of the sacred area. The evidences as mentioned are as follows :

- a) Topographical feature which comprises natural waterways namely, Huai Ta Maria and Huai Tani that flow to the foot of the mountain, as well as other waterways in further area. Evidences of water utilization by local people are seen at Sa Trao and the dams, the ancient irrigation systems.
- b) Records from inscriptions found in the temple and other monuments in the vicinity, mentioning relationship in the dynasty that involves King Jayavarman II and III (late 9<sup>th</sup> century), as well as relationship between the people and the king, agriculture, religious ceremonies related to Preah

Vihear Temple. These stories show that the lowland in the present Thai territory were situated with ancient communities that were related to Preah Vihear Temple. (See Appendix B.)

- c) Discovery of archaeological evidences i.e. bronze Naga head, pottery shards, ancient jars, in Non Nong Krachao and Rai Mae Tam, which are ancient Khmer objects; and Khmer potteries of similar style as those found in Ban Kruat Kiln Site, Buriram province.



Fig.2-24 Archaeological evidences found in Non Nong Krachao and Rai Mae Tam

In the past, the people who lived in the vicinity of Preah Vihear Mountain could have played important roles in the construction of the sanctuary, as well as serving as slaves to the priests. The communities depended on the 2 streams that flowed from the mountain namely, Huai Tani and Huai Ta Maria. The present communities, whose population is of Khmer-Thai race, have mixed with later immigrants of Laos-Thai race, and have developed their own traditions as seen in the present day i.e. the propping of stones with tree branches generally practiced in Preah Vihear Mountain from the area in Thai territory to the mountain top at Poei Ta Di, indicating the development and continuity of human settlement along the Thai-Cambodian border by blood races and cultures. The development, integrated with external influences along the course of time, clearly reflects close relationship between the community and the monument in spite of separation by the present border.

### 2.3 Integrity and Setting

The values, significance and physical characteristics of the cultural heritage site of Preah Vihear Mountain which covers the Preah Vihear Temple to the ancient communities situated at the end of the streams on lower plain, around the boundary of Khao Phra Wihan National Park, as well as intangible aspect of significance of the site of Preah Vihear Temple and site selection that has influenced the people since the past to the present, we can see that the image of this cultural heritage is a cultural landscape of the sacred site of Preah Vihear Temple that indicates the interrelationship of culture and nature that reflects the development of society and human settlement since the ancient times until today. Such interrelationship is within the limit of natural environment, namely, topography, water sources, forests, faunas and all living things, yet being outstanding in terms of physical features and distinct concepts on construction, management of landuse, as well as management of natural resources, for

instance, stone quarries, water sources, or forests. Most importantly, the relationship between nature and culture in terms of religion and beliefs which indicate the ingenuity of people of the past in presentation of philosophical beliefs through the concept in site selection, settlement, and built heritage that we perceive today.

Based on the previously mentioned reasons, in order to maintain and protect the values and significance of Preah Vihear Sanctuary to the best possible means, in terms of both authenticity and integrity, it is necessary to pay attention to, and to take great care in protecting the entire cultural landscape of Preah Vihear Temple by making an integrative management plan which comprises the natural and cultural aspects of the site, and not neglecting the dimension of the people who live in the area. Although this area (in Thai territory) is protected by the announcement of the site as Khao Phra Wihan National Park and Nature Reserve, it is not sufficient and may not be appropriate for the case because the measures specifically concerns the site's natural values, or some cultural values, yet it is still a non-integrative management scheme. Therefore, it is necessary to provide an integrative management plan for the area that will support the designation of the site as a World Heritage, in which all stakeholders are involved and intangible aspects of the site are taken into consideration.

From architectural features, site planning, and surrounding cultural heritage sites, as well as relationship with ancient communities as seen from archaeological evidences, consideration on the values of the site is not limited to the group of buildings and layout of the monument; but includes all the surroundings in Thai territory that help create an integrity of the site. Therefore, in order to cover all the monuments in the aspect of site planning, the area coverage in the nomination file should be expanded to cover important elements in Thai territory, which will be a means to preserve this cultural heritage site holistically and completely, and will be beneficial to management planning for conservation of the site in the future.



Fig.2-25 Topography of Preah Vihear Mountain which slopes toward the foot of the mountain in Thai territory, resulted in natural waterways that flow along the mountain slopes to the lowland. Preah Vihear Temple situated on top of the mountain, with an engraving of Shiva Lingam on the stone plain in front of the access stairs and Sa Trao – Baray to the front of the site. These elements have integrated to form “Shiva Parvata”, the sacred mountain. During the ceremony, the holy water would flow to Sa Trao before passing Huai Tani toward the communities in the lowland at the foot of the mountain, thus the soil was fertile, abundant with plants, grains, and faiths of the people.

#### 2.4 Protective Measures

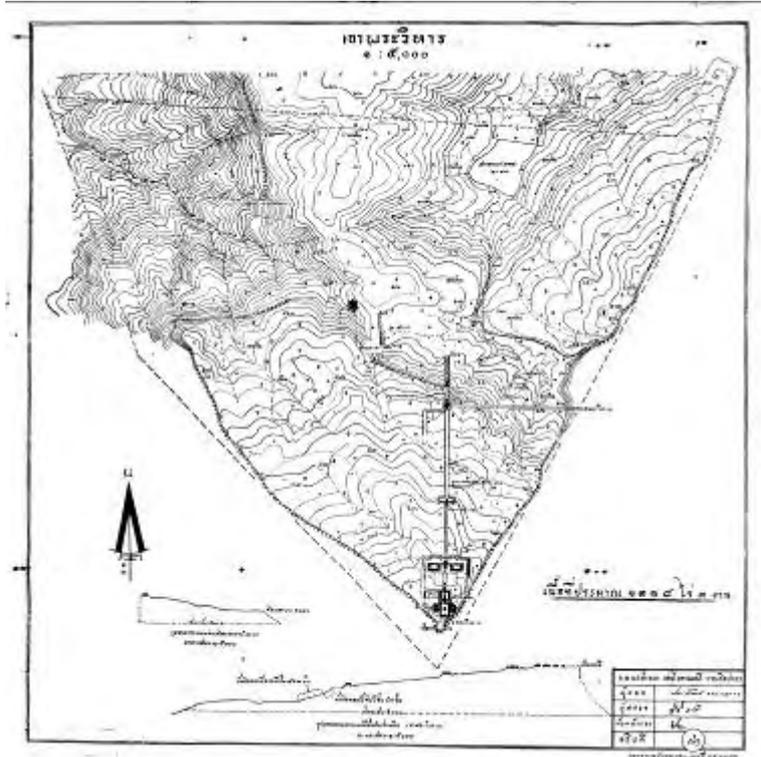
The Thai Government has always perceived the value and significance of Preah Vihear Temple and its setting, and has a policy for protection of the area and cultural heritage sites, both natural heritage and cultural heritage, by using legal measures in registration of national monuments and nature reserve area.

As for cultural heritage, there are 2 sites whose boundary have been defined and declared as National Monuments as follows :

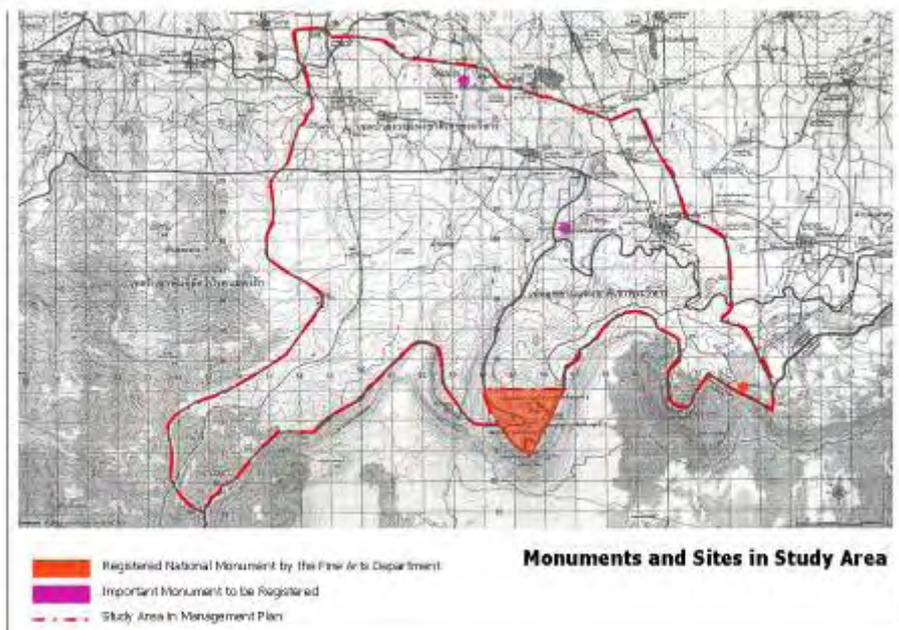
- Prasat Phra Wihan (Preah Vihear Temple), was registered before the decree of World Court in 1962 by the Fine Arts Department on 11<sup>th</sup> October, 2483 B.E. (1940 AD), under the name “Monuments on Phra Wihan Mountain” which was the registration of the monument only.

Later, on 4<sup>th</sup> December, 1959, a declaration of additional area was issued. The area of the later declaration is approximately 2.11 sq.km., covering the Naga Bridge, Sa Trao, and the Twin Stupas.

- Prasat Don Tual, registered under the name “Chong Ta Thao” since 1935.



Registration map of Preah Vihear Temple



Protection of natural heritage comprises 3 categories :

1. National Reserved Forest : is included in the study area. A National Reserved Forest is declared by the Act on National Reserved Forest, 2507 B.E. (1964 AD.), under responsibility of the Royal Forest Department. The declaration of national reserved forest aims for preservation and maintenance of the area for future use of natural resources to serve the economy of the nation.
2. Wildlife Reserve : Phnom Dong Rak Wild life Reserve, included in the study area, has been declared by the Royal Decree as a wildlife reserve area since 1978 due to the discovery of traces of Kouprey, an important reserved animal and endangered species of that time. Furthermore, there is a neighbouring wildlife reserve on Phnom Dang Rek Range, that is "Yod Dom Wildlife Reserve officially declared in 1977. Wildlife reserves are under responsibility of the National Park, Wildlife and Plant Conservation Department. Declaration aims for conservation of areas with complex natural and ecological features for the living and reproduction of wildlife.
3. National Park : the study area has been officially declared as Khao Phra Wihan National Park since 1998. in nearby area, there is Phu Chong Na Yoi National Park declared by the Royal Decree in 1987. National parks are under responsibility of the National Park, Wildlife and Plant Conservation Department. Declaration of national parks aims for conservation of fertile and beautiful natural areas which have distinguished identity.

Natural features and significance are described in article 3.4, Natural Resources and Protection.

## Chapter 3

### Existing Conditions

#### 3.1 Demarcation of Management Area

The management area of Preah Vihear Mountain and its surroundings are located in Amphoe Kantharalak, Changwat Si Sa Ket. The distance from the site to Si Sa Ket province is 95 kilometres, and to Ubon Ratchathani province 99 kilometres.

Demarcation of management area has taken into consideration the relationship between monuments and archaeological sites and natural environment and local communities who have lived with these ecosystem and cultural sites since the old times until today. Furthermore, the access, in relation to other physical features i.e. mountain range, water sources separation line, and public roads have been taken into account.

Monuments and archaeological sites in the area comprise Sa Trao group of monuments and archaeological sites, Twin Stupas, Mo I Daeng Rock Art, and stone cutting sites. Archaeological sites on the lower area of Sa Trao comprise Non Nong Krachao and Rai Mae Tam, and Prasat Don Tual Monument complex, a contemporary monument to Preah Vihear Temple which is situated to the east of the temple.

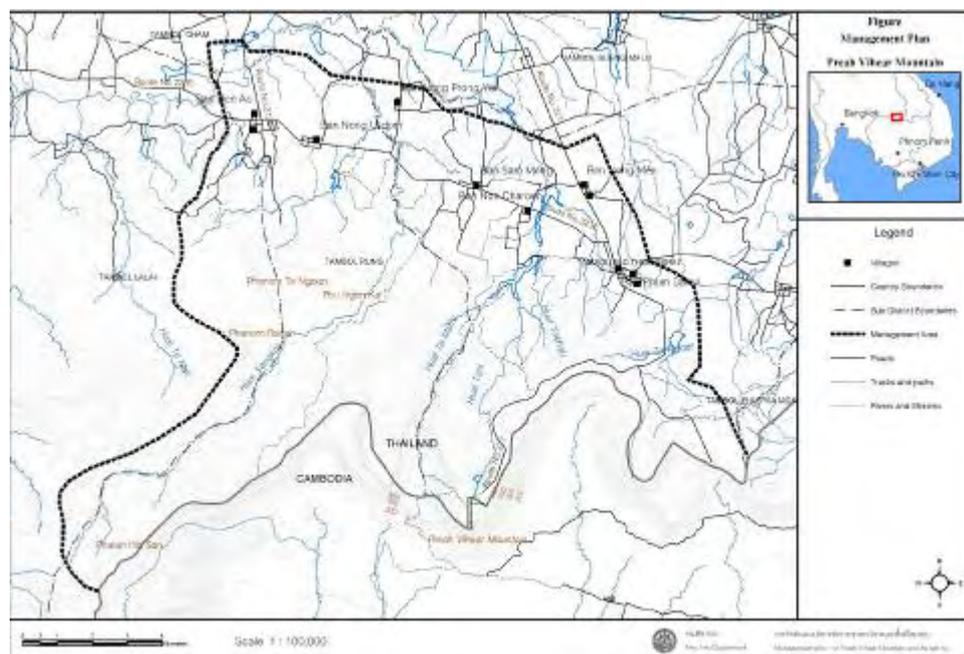
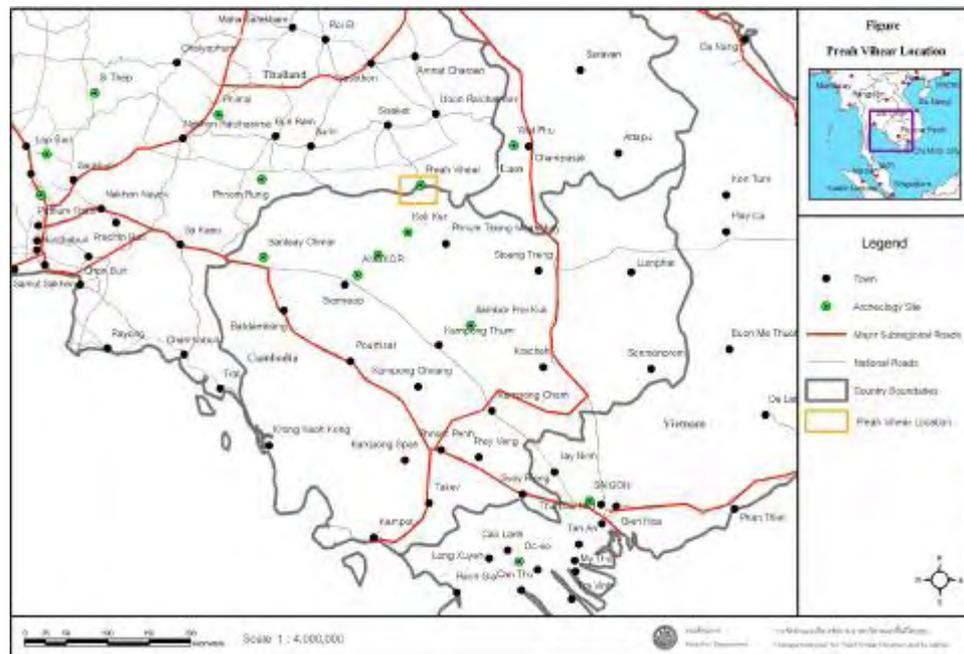
The project area is of an adjoining area between Khao Phra Wihan National Park and Phnom Dong Rak Wildlife Reserve. Apart from being an evergreen forest abundant with plants and wildlife in a great biological diversity, there are beautiful natural sites which are tourist attractions such as Mo I Daeng Cliff, Tani Waterfall, and Phu La-O Waterfall, etc.

The area to the north, beyond the National Park and Wildlife Reserve is a local agricultural area with villages located along the Highway No. 2235, comprising 7 villages in Tambon Sao Thongchai and 4 villages in Tambon Rung. The population of these villages is of Khmer race and culture who utilize water from Preah Vihear Mountain and its connecting ranges for their agriculture and daily uses by collecting the water in small reservoirs.

##### 3.1.1 Boundary of Management Area Based on the Previously Mentioned Criteria

- |       |  |
|-------|--|
| North | Adjacent to the parallel line at 2.0 km. distance and centre of Highway No. 2235 on northern side                          |
| West  | Adjacent to Hui Sakot Basin border on western side to the parallel line at 1.0 km. distance and centre of Highway No. 2126 |
| South | Adjacent to Thai – Cambodian border  |

East Adjacent to the parallel line at 1.0 km distance and centre of Highway No. 221 and public access road to Prasat Don Tual on eastern side



Map of Management Area

### 3.1.2 Topography

Khao Phra Wihan (Preah Vihear Mountain) is part of Korat Plateau whose southern edge is a mountain range formed by land uplift into a cliff on the south which slopes to the north. The top of the mountain is over 500 metres above Mean Sea Level, with Preah Vihear being the highest peak of 648 metres in height. The land at the foot of the mountain is an undulating plain, between 170 – 180 metres

above MSL on which villages are scattered in the area. Along the mountain range, there are passes which are accesses between Thailand and Cambodia since ancient times i.e. Chong Ta Thao pass, Chong Don Ao pass, etc.

The mountain range is important source of waterways of the northern plain comprising small streams flowing to the lower plains. Important streams are Huai Sakot, Huai Ta Maria and Huai Tani. Reservoirs have been made to collect water for agricultural and household uses of local communities. In management area, there are 7 reservoirs in total. Environmental changes, therefore, could affect the quantity and quality of water, as well as the people's way of life.

### **3.1.3 Climate**

The management area is in tropical monsoon climate. There are 2 seasons, the rainy Season, from May to October, and dry season, which can be sub-divided into cold season during November to January when the weather is cool, and during February to April when the weather is hot and humid.

Average annual temperature is between 27.0 – 27.3 degrees Celsius. The highest average temperature in dry season is between 33.2 – 35.9 degrees Celsius; and in cold season, the lowest average temperature is between 16.4 – 19.8 degrees Celsius.

Rainy season begins in May, and rainfalls increases to the heaviest in September before decreasing. The rain falls mainly during May – October.

The climate with long dry season, up to 6 months annually, calls for preparation of water for use in the dry period, therefore, reservoirs have been built to collect stream water and rainwater since ancient times. The fertility of Preah Vihear Mountain's ecosystem is important to the local people whose lives depend on the water from the mountain.

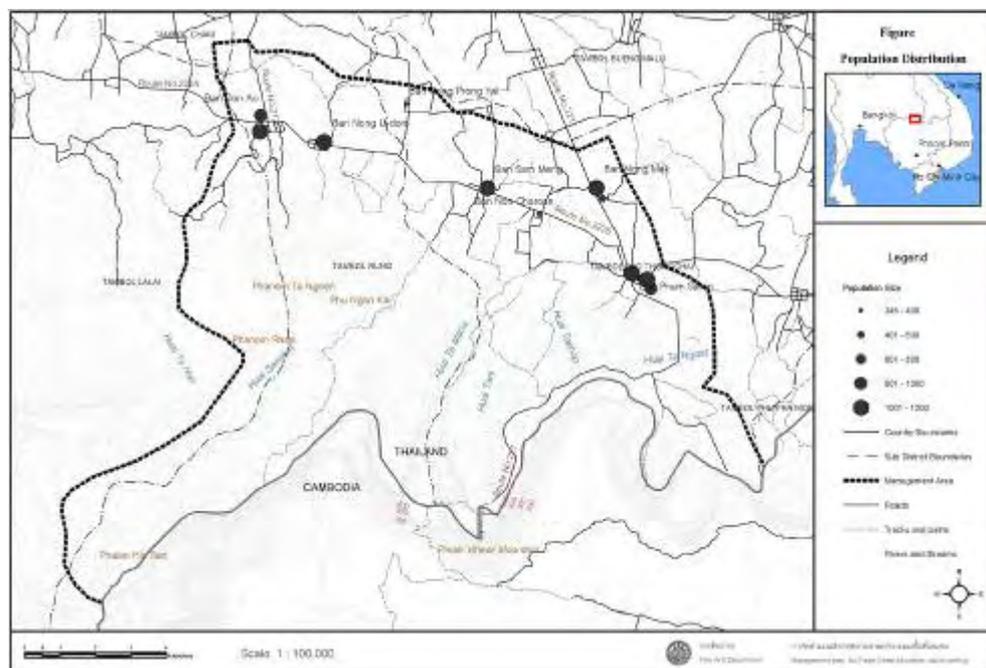
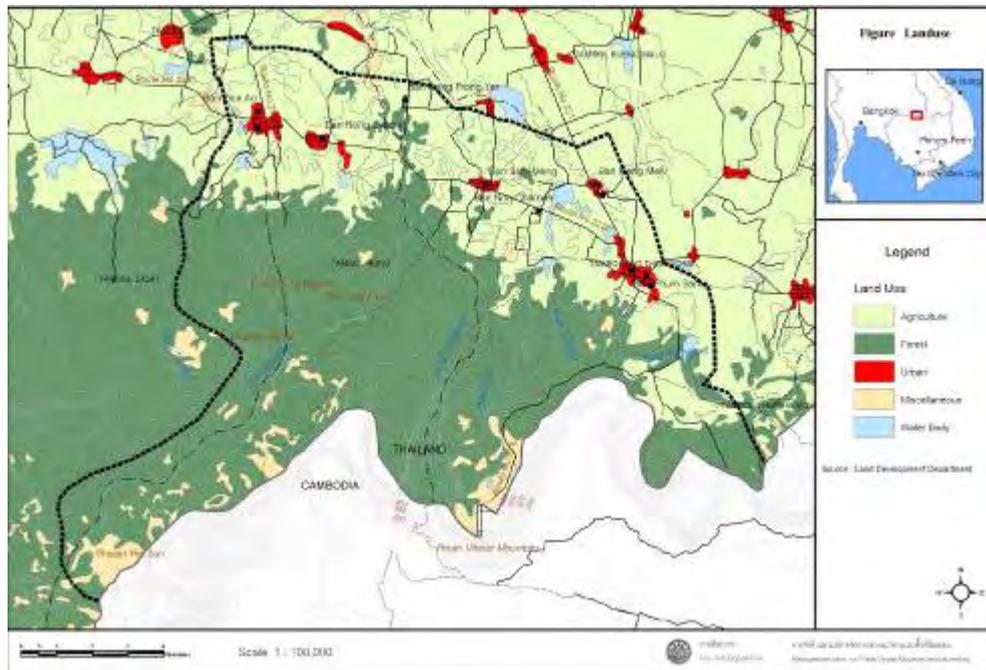
### **3.1.4 Geographical Features**

The management area is located on Korat stone layer, which is the stone layer formed by aggregation of sediments in the continent from Jurassic to Cretaceous eras, comprising quartz, sandstone, siltstone, mudstone, and conglomerate rocks.

Sandstone is an important construction material in the area because it can be cut into slabs, the same as marble and granite, therefore, it is an important factor in construction of ancient structures. The geographical features whose natural foundation is sandstone, which does not retain groundwater except in the area where cracks of stone exist that groundwater may be found but in small quantity, making the area very dry and repeatedly dry, therefore, is necessary for human settlements in such area to prepare water for use in dry season.



It was mentioned in inscriptions that the agricultural area at the foot of Preah Vihear Mountain was an old settlement in the past, which continued from the period of construction of Preah Vihear Temple. There is a record on royal grant of land in the undulating plain for people to live and to work on royal paddy fields. (Chaem Kaeokhlai, 2550 B.E., p. 35 and p.45)



### 3.1.6 Access

The management area is accessible via highway at 567 km. distance from Bangkok, or by

train to Si Sa Ket and Ubon Ratchathani, and by plane to Ubon Ratchathani International Airport, then travel by car from Si Sa Ket via Highway No. 211, 95 km. in distance; and from Ubon Ratchathani via Highway No. 2178 and 2085 to Highway No. 211 at Amphoe Kantharalak, total distance is 99 km.

### 3.1.7 Chong Sa Ngam Border Pass

Si Sa Ket province has its southern border adjacent to the Kingdom of Cambodia, therefore, a border pass is opened at Chong Sa Ngam, Ban Sappire, Tambon Phrai Phattana, Amphoe Phu Sing. The border pass is further from the management area to the west, approximately 118 km. distance via national highway. Chong Sa Ngam Border Pass is an access to An Long Weng, Changwat Udon Michai, which used to be a Khmer Rouge Base, and from An Long Weng, there is a highway that links to Angkor, Changwat Siem Reap at a distance of only 135 km. thus the development strategy of Si Sa Ket considers this border pass an important communication access to the Kingdom of Cambodia.

## 3.2 Communities in Preah Vihear Mountain Cultural Heritage Site

### Settlement and Socio-Economy of Communities

The area of Preah Vihear Mountain has been an area of human settlement since ancient times, with historical relationship to the founding of Preah Vihear Temple. Several inscriptions, both those found in the temple area and in other ancient Khmer influenced sites (Chaem Kaeokhlai, 2550 B.E. p.45) indicate that the area was occupied by people, and, nowadays, there have been discoveries of archaeological evidences and remains of ancient settlements in Ban Nong Krachao and Rai Mae Tam.

Communities in the management area are populated by people of Thai-Khmer race who have mixed with later immigrants of Thai-Laos race and have lived until today in the areas of Tambon Sao Thongchai and Tambon Rung, Amphoe Kantharalak, Changwat Si Sa Ket. Report on Demographical Statistics of Thailand, December, 2007 specify the population of these villages as follows :

Tambon Sao Thongchai District Administration area comprises 9,691 persons, 2,323 houses  
Villages under the administration of Tambon Sao Thongchai are :

Ban Phum Srol, a large village which comprises a group of small villages namely, Ban Phum Srol, population 1,038 persons, 291 households; Ban Phum Srol Mai, population 1,026 persons, 258 households; and Ban Phum Srol Song, population 807 persons, 163 households

Ban Nong Mek, population 1,069 persons, 241 households

Ban Nong Mek Noi, population 496 persons, 104 households

Ban Non Charoen, population 345 persons, 92 households

Ban Sam Meng, population 1,146 persons, 252 households

Tambon Rung District Administration area comprises population of 7,464 persons; 1,715 houses. Villages under the administration of the district are :

Ban Don Ao, population 957 persons, 183 households

Ban Don Ao Tai, population 1,098 persons, 205 households

Ban Nong Udom, population 1,181 persons, 250 households

Ban Nong Prong Yai, population 370 persons, 76 households

(Department of Provincial Administration, 2550 B.E. (2007 AD))

Most of the communities are located along the road surrounding Khao Phra Wihan National Park, with Ban Phum Srol, Tambon Sao Thongchai situated at the end of Highway No. 221 at the border which is an access to Preah Vihear Mountain. Other communities are located along Highway No. 2235 on the way Ban Don Ao.

Local economic base is agriculture, supported by water from Preah Vihear Mountain namely, Huai Tani and Huai Ta Maria streams, therefore, the people play important roles in protection, maintenance and understanding of the values of their homeland.

Most of agricultural areas are rice paddy fields and crops plantations, hemp growing, which has recently changed to rubber plantations in some parts. The rice paddy fields are usually located around the villages along the bank of the stream and lowland. There are also livestock farming in the forest around the villages, mostly in the area of National Reserved Forest (National Park, Wildlife and Plant Conservation Department, 2548 B.E. (2005 AD), p. 3-139).

The people of Ban Phum Srol has some extra income from tourism of Preah Vihear by selling souvenirs, food, beverages, massage service and acquiring goods from Si Sa Ket and Amphoe Kantharalak to sell to the Cambodians who cross the border to buy the goods and resell them in Preah vihear Temple.

Furthermore, the local people have given opinions on problems and effects of tourism to the environment of Preah Vihear Temple that should have been solved, that is, garbage management and water pollution which affects Sa Trao (National Park, Wildlife and Plant Conservation Department, 2548 B.E. (2005 AD), p. 3-140).

From an interview with the head of Phum Srol village in April, 2008, it is known that the communities around Preah Vihear Temple have settled in the area for a long time, however, the population has increased by immigration. The people are of both Thai and Khmer-Thai races. Cultural Mapping of Ethnological Groups in Thai-Cambodian Border Project carried out by Mahidol University specifies that in Amphoe Kantharalak, Si Sa Ket province, in area adjacent to Phnom Dang Rek Mountain, there are settlements of Khmer people especially in Ban Thung Yai, Ban Prathai, Ban Bueng Malu (Ban Phum Srol was originally part of Ban Bueng Malu), Ban Don Ao, Ban Rung, Ban Thung Yao, Ban Bak Dong (location of Prasat Tamnak Sai), etc. These villages are in the surroundings of Preah Vihear

Mountain, therefore, the settlement with social relationship of various races namely, Thai, Khmer, and Laos, is a cultural identity of the communities since the past until today.

With long established settlement, local people in the vicinity of Preah Vihear Mountain is an important group which has benefited from the values of the ecosystem of Preah Vihear Mountain in their occupation, and such ecological fertility is linked to economical value, income from agriculture that depends on water sources, and income from tourism.

This area also serves as a learning resource on history of communities, a long established co-existence of societies with natural and historical sites, which are the societies that communicate and cooperate with each other. The values of Preah Vihear Mountain to the community learning is a significant basis on participation of people and local communities in conservation of resources and environment to last as heritage of mankind.

#### **Values of Preah Vihear Mountain to the Communities Way of Life**

Communities in the management area are surrounded with natural sites which have values and biological diversity, as well as important historic and cultural heritage sites that are valuable to the people's way of life and development of communities, especially the cultural values, which link the values of cultural history since the past creations and evolution along historical timeline. There have been changes in socio-economy, culture, politics, which have led to the present socio-economic values in terms of culture, economy, social, and learning.

Therefore, local authorities and communities in the Preah Vihear Mountain cultural site are important to conservation and management in order to preserve the values of this cultural historic site to last into the future based on participation and understanding.

#### **Ecological Values**

The forests of Phnom Dang Rek mountain range, where Preah Vihear Temple is situated, exist continuously along the Thai –Cambodian border. The forests are verdant and fertile, being source of streams, waterfalls, and several waterways that serve agriculture and daily life of people in local communities.

#### **Economic Values**

The ecosystem of Preah Vihear Mountain which comprises forests and water sources are valuable economical resources. The people have exploited the resources in their living and agricultural occupation which is the main economic structure of the communities along with tourism activities of Preah Vihear Temple in relation to the Khmer cultural route that provides income to the province and the communities.

The communities, being in the vicinity of an important historical heritage site, have become accesses to Preah Vihear Temple and linkage to surrounding cultural sites which have created economic

values on provincial level for Si Sa Ket and Ubon Ratchathani; to local level that gains income from accommodations and services.

Ban Phum Srol village in Tambon Sao Thongchai, Amphoe Kantharalak, Si Sa Ket province is the last community on Highway No. 221, which is the main road to the border and to Preah Vihear Mountain. Some villagers earn income from tourism of Preah Vihear by selling souvenirs, food, beverages, and traditional massage services at the Tourist Information Centre.

### **Educational Values**

Preah Vihear Mountain, including Khao Phra Wihan National Park, Preah Vihear Temple, water sources, geographical and geological features, is a local educational site for studying the natural and cultural heritage for students and general public in the local. The sites have also been visited by groups that come for study trips, as well as local tourists from other provinces and amphoes.

The educational values of Preah Vihear Temple link local learning to cultural sites, stone monuments, and Khmer cultural route in lower northeastern region where there are co-existence of communities, with a diversity of races, and cultural sites of different periods. These are significant foundations which lead to preservation of the values of the World Heritage Site whose area covers both countries based on knowledge, understanding and mutual cooperation of people in preservation of cultural values and contemporary socio-economical values for conservation and management of Preah Vihear World Heritage Site in the future.

### **Tourism Situation of Preah Vihear Mountain**

Tourism is an issue which benefits from ecological values of Preah Vihear Mountain, including natural values, cultural values, and educational values as a natural learning site, and monuments, historic and cultural sites.

Si Sa Ket province, which is the access to the cultural heritage sites in the vicinity of Preah Vihear Temple, is a province in Khmer cultural route that links traveling and learning of Southern Isan cultural sites and Khmer cultural sites to tourism route to Ubon Ratchathani province, the gateway of the Northeastern Region. Ubon Ratchathani is linkable to Wat Phu tourist attraction and World Heritage Site in Lao People's Democratic Republic, Angkor World Heritage Site, stone sanctuary sites in Lower Northeastern Region and Phnom Rung Historical Park. On macro scale, therefore, Preah Vihear Mountain and its surroundings is a significant tourism hub of the region.

In 2006, the number of visitors to Si Sa Ket summed up to 712,515 persons. The main tourism market is local, however, the trend of international tourists is increasing. Thai tourists prefer to come in groups. Foreign tourists are mainly from European countries and mostly come as free individual travelers (FIT) rather than group tour. Si Sa Ket province gains income of 896.45 million baht from tourism in 2006 (Tourism Authority of Thailand, Local tourism Statistics, 2006, pp.341-365).

Preah Vihear Temple, Khao Phra Wihan National Park, Mo I Daeng Cliff, are the most popular tourist attractions in Si Sa Ket province. Some visitors also visit stone monuments in neighbouring area, i.e. Prasat Hin Wat Sa Kamphaeng Yai.

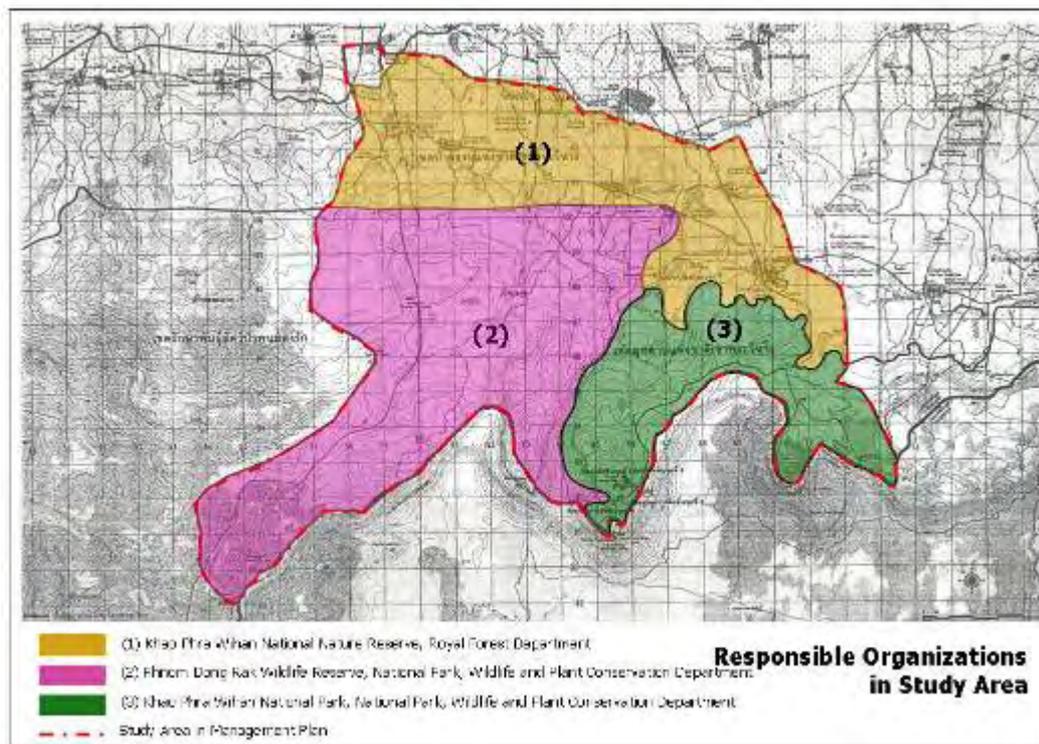
Most of the tourists are Thais. Foreign tourists are mostly European, Japanese, and Americans. Transportation is mainly by cars, pick-ups and vans. 99% of visitors who come to Khao Phra Wihan National Park also visit Preah Vihear Temple (National Park, Wildlife and Plant Conservation Department, 2550 B.E. (2007 AD))

At present, tourist services are clustered in front of Tourist Information Centre. Most of the vendors are from Ban Phum Srol.

The route from Ban Phum Srol village also links to Prasat Don Tual and the west area via Highway No. 2235, passing villages around Preah Vihear Mountain, namely, Ban Non Charoen, Ban Sam Meng, where Huai Takhop stream runs through and being a viewpoint to see Preah Vihear Mountain at a far distance. The route links further to Phu La-O Waterfall and Ban Don Ao in Tambon Rung, Amphoe Kantharalak, and also links to Prasat Tamnak Sai in Amphoe Khun Han.

#### **Natural Resources and Protection**

General features of the setting of Preah Vihear Temple comprises reserved area of Phnom Dang Rek Range that continues to Khao Yai Range and a nature reserve area of the Kingdom of Cambodia. The area coverage is from Yod Dom Wildlife Reserve, Phu Chong Na Yoi National Park, Khao Phra Wihan National Park, Phnom Dong Rak Wildlife Reserve, Preah Vihear Reserved Forest of the Kingdom of Cambodia, Huai Sala Wildlife Reserve, Huai Thap Than – Huai Samran Wildlife Reserve, and Ta Phraya National Park, which is part of Khao Yai Range that has been listed as a World Heritage in 2006.



### Forests

Forests in the management area comprise Dry Evergreen Forest in the adjoining area between the Kingdom of Thailand and the Kingdom of Cambodia, Deciduous Dipterocarp Forest and Mixed Deciduous Forest; alternated with grassland. The plant society is significant to the ecosystem which is related and involved with physical and biological factors, plays important roles and influencing the climate in the neighbouring regions being wildlife habitats, water sources, and natural sources for maintenance and reproduction of rare plant species.

From study and survey of Preah Vihear Mountain, rare plants and endemic plants have been discovered namely, Khao Phra Wihan Orchid, or Ueang Ra Fa (*Vandosis lissochiloides* (Gaudich.) Pfitzer, Family Orchidaceae) and Krathon Ruesi (*Sapria Himalayana* Griff., Family Rafflesiaceae), which are the species in danger of extinction.

### Sandstone Plains

The sandstone plains are the source of material used for construction of Preah Vihear Temple and other elements of the temple. Sandstone plains are found scattered all over the area.

### Water Sources

Preah Vihear Mountain is the source of several waterways i.e. Huai Tani and Huai Ta Maria that flow toward the plain in northern direction. An important water source that has been used since the construction of Preah Vihear Temple until today is Sa Trao, whose capacity is approximately 50,000 cubic metres. Nowadays, the water in Sa Trao pond is polluted with weeds, murky and contains a lot of

brown deposits because the pond has become a receptacle of waste water and garbage left by tourists who visited Preah Vihear Temple as well as the people who live on the mountain.

### **Waterfalls**

There are 2 waterfalls which are tourist attractions in the management area namely, Phu La- O Waterfall and Tani Waterfall.

### **Wildlife**

Phnom Dang Rek Range has a diverse ecological features thus it is a wildlife habitat of great numbers and varieties of wild animals, both those living in open forests and those that live in the jungle, whose feeding areas cover both Thai and Cambodian territories. The wildlife which are abundant in the area are i.e. birds, deer, barking deer, gibbons, civets, and there have been reports on discovery of Kouprey (*Bos sauveli*) in 1984 and 2006.

Kouprey, or Kho Phrai, is a Khmer name means “wild cow”. It is a reserved animal in appendix of CITES (2004) in IUCN, a critically endangered species and threatened species. The features of Kouprey is similar to Gaur (*Bos gaurus*) and Banteng (***Bos javanicus***), but with tuft of hair at the end of each horn. Koupreys live in group of 2 – 20 (depending on the amount of food available in the area), feed on grass and fresh leaves, inhabiting in open forests, i.e. grassland alternated with Mixed Deciduous Forest and fairly dry Deciduous Dipterocarp Forest in Thailand, Vietnam, Laos, and Cambodia.

### **Natural Resources Management**

The area of Preah Vihear Mountain has a diverse and continuous ecosystem, which is naturally unique, therefore, if any part of the natural ecosystem is disturbed, damaged or affected by activities, the results will affect natural resources which are linked to adjoining ecosystem consequently. It is, therefore, necessary to prepare for maintenance and preservation of natural resources and environment in the management area based on cooperation and consideration on ecological relationship in order to maintain balance and increase efficiency in preservation of natural resources and environment which belong to the communities and mankind.

Furthermore, management of natural resources between Thailand and Cambodia as specified in the Joint Agreement in the part which concerns the environment in adjoining areas in both countries, an MOU has been signed since 1991, in which it is stated that both parties will not change or adjust environmental conditions in the area which could cause problems or changes to the border.

## **3.5 Existing Conditions and Study Area : Present Development**

Construction and development of the study area and its surroundings on Amphoe (an administrative unit smaller than Changwat) and Changwat (province) levels follow the Khao Phra Wihan National Park Development Project of the National Park, Wildlife and Plant Conservation Department and

Development Project based on Strategic Plan of Si Sa Ket. By survey of the study area, particularly the area on the mountain, development and construction of large scale buildings have been found in small number. Most of the buildings are public buildings in Khao Phra Wihan National Park. As for construction in overlapping area, there has not been organization measure and mutual agreement. In conclusion, the present development can be divided into 5 areas as follows :

- Area 1 : Parking area, western side of causeway
- Area 2 : Stalls, open ground in front of the main stairs
- Area 3 : Sala (open pavilion), flagpole, Mo I Daeng Cliff
- Area 4 : Military camp
- Area 5 : Tourist Information Centre and tourist facilities
- .....

**Area 1 : Parking area, western side of causeway**

Existing Condition

Both sides of the stairs and the causeway leading to Preah Vihear Temple are forests, providing a wide panorama to all surrounding landscape. Conditions of the mountains and valleys flanking Preah Vihear Mountain are verdant forests which cover adjoining area that is part of the entire ecosystem of Phnom Dang Rek Range. At present, Cambodia has started the development of the western plain and car parking, which is visible from the causeway axis of Preah Vihear Temple.

Affecting Factors

The area which has been developed into a parking lot and service centre that has just appeared recently is near to the causeway, which is in the north-south main axis of the temple. If appropriate control measures have not been set up beforehand, the approach that is too close to the monument is certain to result as problems on land use which are conflicting with conservation of the monument and forests caused by expansion to serve the increasing number of tourists in the future, as well as negative effects to overall visual image of the area.

Suggestions

The area is in the overlapping claim area. Effects from various activities will affect natural resources and related to adjoining ecosystem, therefore, it is necessary to manage and maintain natural resources and environment in the management area by cooperating in analysis of environmental impact and management of the environmental reserved area and tourist service area in order to preserve values of the monument and balance of the ecosystem, as well as to increase efficiency in conservation of natural resources and environment. Location of the parking lot and service area should be obscured from the monuments, including Preah Vihear Temple, Sa Trao and Mo I Daeng.

## **Area 2 : Stalls, open ground in front of the Main Stairs**

### Existing Condition

The main stairs leading to the temple on north-west axis is the main access according to sequence of religious ceremony. The temple location on mountain top implies the abode of God Shiva, the supreme god in Shaivism Hindu. From there, one descends through Gopuras, causeway, and stairs to the stone plain on which a Shiva Lingam in a square frame, similar to Yoni Base, is engraved, before proceeding to Sa Trao pond and the reservoir that was the main water source of the religious place and the communities in lowland, which is in the present Thai territory.

The axis-based relationship and sequential system from the temple to water source and community as mentioned, however, have been obscured by disorderly stalls that have been set up by Cambodian vendors around the base of the stairs.

### Affecting Factors

The area in front of the main stairs where Cambodian vendors used for setting up their stalls has affected the views both from below and from the temple downward. Disorderly site organization and lack of good management planning have resulted in inappropriate activities, untidiness, eyesore and disagreement with natural environment.

If good management measures for the overlapping area as mentioned are not provided, there will be problems on land use and activities which are conflicting with conservation of monuments and setting in the future.

### Suggestions

The above mentioned area is in the overlapping claim, thus it is necessary to have a specific management plan which must be agreed upon mutually. Nevertheless, the significance of the area calls for unconditional removal of dwellings and stalls from front of the temple.

## **Area 3 : Sala (open pavilion), flagpole, Mo I Daeng Cliff**

### Existing Condition

Mo I daeng Cliff is part of service area of Khao Phra Wihan National Park. In the area, there are viewing Salas (open pavilion), viewpoint, flagpole, and the area is near several important monuments namely, Sathup Khu (Twin Stupas), bas reliefs, and Sa Trao pond, as well as being close to the National Park's nature trail. The distinctive characteristics of the area are panoramic views seen from the cliff, covering a vast area of Cambodia in the lowland, Preah Vihear Temple and its complementary elements.

### Affecting Factors

Looking from the temple, salas and structures in the area are rather noticeable because of the use of materials and colours which are too outstanding and disagreeing with natural surroundings, thus affecting the overall landscape image.

#### Suggestions

The area is under responsibility of the National Park, therefore, the National Park may control the management area as appropriate in order to preserve the area's identity, panoramic views, and to develop and promote the area's potential and relationship between monuments and natural routes. In this case, the present salas should be relocated and improved to be most appropriate visually, considering on harmony with natural environment.

#### **Area 4 : Military Camp, Border Control**

##### Existing Condition

The border control is location of the 23<sup>rd</sup> Ranger Unit, Suranari Army Task Force, and a checkpoint. The area is scattered with evidences of stone cutting sites. The checkpoint comprises the checking area and complementary buildings of rather simple designs and use of colours. General features of the buildings are temporary, camp-like, with minimal effects to the surroundings. The military camp is situated nearby, also built as temporary camp site.

#### Suggestions

1. The area is under responsibility of the National Park, therefore, the National Park may control the management area as appropriate.
2. The checkpoint should be improved in designs, and facilities should be added to serve future activities and tourists. However, location should be selected to conform to the overall image.
3. The Military Camp whose location at present is in the National Park may be moved if the site does not require a military troop in the future.

#### **Area 5 : Tourist Information Centre and tourist facilities**

##### Existing Condition

The furthest end of the access to Preah Vihear Temple is location of services and main parking lot for visitors. This area, the first point of visit to Preah Vihear Temple, comprises Tourist Information Centre group of buildings, tourist facilities, restaurants, and restrooms. The feature of the area is a plain on a mountain adjacent to Preah Vihear Temple, Sa Trao and Mo I Daenag Cliff, and the National Park's nature trail.

Service buildings in this group comprise buildings located on both sides of the road and parking lot. The buildings on eastern side of the road are on the highest level, comprising Tourist Information

Centre, Exhibition Hall, Salas and restrooms. This group of buildings, especially the roofs, is the most distinguishable when looking from the temple and base of the mountain.

The buildings on western side of the road comprise shops, restaurants, OTOP Centre, Thai Massage Promotion Centre, and public restrooms. Scale of buildings and the use of colours which are harmonized with natural environment have lessened the visual effects from base of the mountain. However, the problems are disorderliness and capacity of use, as well as the buildings being a visual blockage to the view to Sa Trao.

#### Affecting Factors

The present Tourist Information Group has inappropriate layout, building locations, and building designs which affect aesthetic value of the area and not enhancing to the atmosphere of the area.

#### Suggestions

1. The area is under responsibility of the National Park, therefore, the National Park may control the management area as appropriate.
2. in order to preserve the overall image of the area which is visible from Preah Vihear Temple as well as from the lowland, measures for improvement should be set up as follows :
  - Relocate the group of buildings on the eastern side of the road, and improve the landscape of the eastern side, which is adjacent to the cliff, as an open space.
  - Improve the designs of shops, restaurants, and restrooms to be of appropriate heights
  - and scale, as well as using colours and materials which are harmonized with the environment.
3. Develop and promote the potential of the area and relationship between monuments and natural routes.
4. Open up the vistas and develop the landscape to link with nature trail, Information Centre and Sa Trao.
5. Improve the parking lot area by planting trees in order to be harmonized with natural environment of the forest.

#### **Visual and Landscape Analysis**

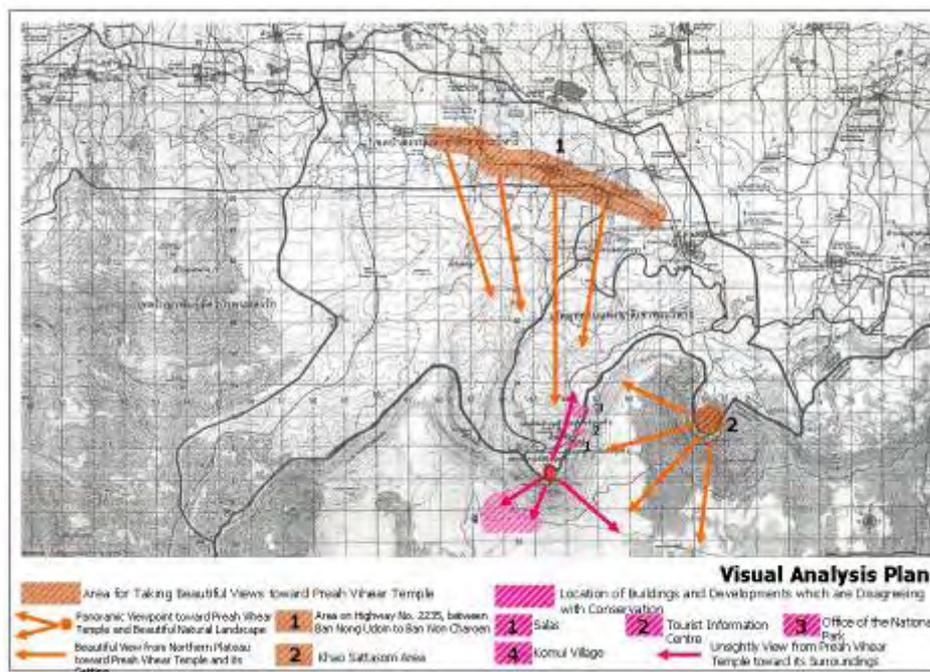
Topography of Preah Vihear Mountain and its surroundings is unique with beautiful natural distinction of a mountainous land which slopes northward. Moreover, the location of the temple, group of buildings and other elements had been designed and planned in the most important site of the entire area, which reflects Hinduism philosophy and beliefs that have been expressed through the site planning in the superb location. The setting up of concepts for area management in terms of conservation, therefore, critically requires study and analysis of perspectives and visual images in order to maintain

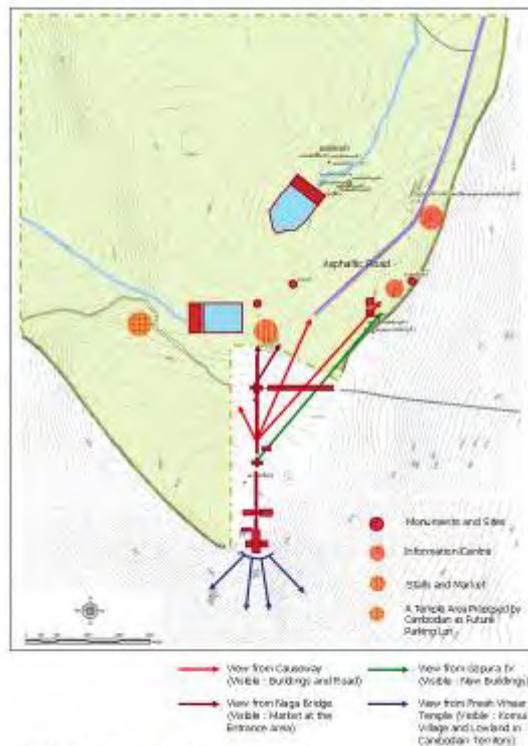
and revive landscape features which enhance the monuments and its contexts of beautiful natural features. The views can be categorized into 2 types namely, views from Preah Vihear Temple toward its surroundings; and views from surrounding areas toward Preah Vihear Temple.

The first type of views is perception of the landscape and contexts of the surroundings. Different viewpoints of the monument, from the stairs to the main sanctuary which is situated on the highest level, make the viewers in each viewpoint see relationship to the surrounding landscape, whose entire contexts are considered important parts of the monument.

Another type are views and perspectives that viewers can perceive when arriving at the area from its topographical features and sequence of approach, with Preah Vihear Temple as the main landmark on top of the mountain, both from near and far distance. The views reflect the relationship between local communities and Preah Vihear Temple which is the spiritual centre of the area.

From the concepts of analysis for these 2 types, and from field survey, the effects of the views toward conservation of Preah Vihear Mountain and its setting can be categorized into 3 groups namely, views from Preah Vihear Temple in relationship with surrounding perspectives, views from Highway No. 2235, and views from Sattasom Mountain.





**Analysis Plan : Visual Images  
and Appropriate Landscape for Area Conservation**

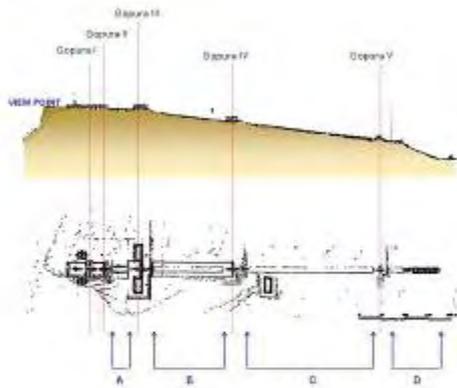
### 3.6.1 Views from Preah Vihear Temple in Relationship with Surrounding Perspectives

The layout of buildings and connection between each building on north – south axis is harmonious with the topography. Gopuras and causeway had been designed with appropriate use of the area’s distinctive features based on thorough understanding of topography and construction techniques, indicating the great ability of architects and builders of those days.

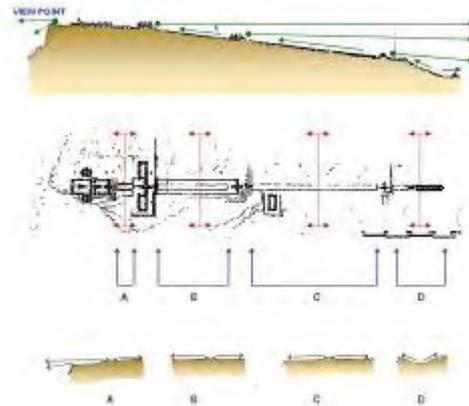
Consideration on views and perspectives in the setting of the monument from various positions differs because of perception and movement. Visual analysis on different parts of the pathways and important areas of the monument in each part (Gopura) renders the changing views which can be perceived from architectural features and space of the monument in relationship with topography, leading to area analysis in visual perception as follows :

1. Connecting causeway between Gopuras i.e. parts A, B, C, D, of the pathway are views which emphasize movement from the starting point to the ending point, which is a building or Gopura, that viewers can see on both sides of the pathway.
2. Buildings or Gopuras which are important viewpoints toward surrounding areas, comprising Gopuras I, II, III, IV, V and the viewpoint on Poi Ta Di plain.

**Section : Preah Vihear Temple Visual Analysis Points**



**Section : Visual Directions from Access Pathway**



- Analysis of each part of the causeway by looking backward, starting from Gopura I of the main sanctuary to the stairs. From location of Preah Vihear Temple along the main causeway, viewers get the views of all surrounding topography which affects the perspective that is a context of the location of the monument.
  - Causeway part A is the part of causeway which connects Gopura II and Gopura III. Being a short causeway that links the group of monuments in the main sanctuary area that visually leads viewers from Gopura II to Gopura III. Views from both sides of the causeway comprises panorama of the natural environment and surrounding topography. Visual conditions are well-preserved.
  - Causeway part B is the part of causeway which links Gopura III and Gopura IV, leading to Gopura IV. This part of causeway is a wide path supported by earthen-cored laterite structures. Both sides of the causeway are panoramic views of the mountainous topography. Problems : new structures i.e. road and Salas (open pavilions) in Thai territory are visible from this part of causeway.
  - Causeway part C is the part that links Gopura IV and Gopura V. Views from this part of causeway is wider and the causeway is steeper, visually leading to Gopura V. Both sides of the causeway are open space fully covered with local plants of grass family, that enable viewers to see the vast mountainous topography in far distance. Problems : Temporary modern buildings are found near the causeway, which are disturbing to the atmosphere of the monument. In the far distance, looking toward Thailand, road and Salas are visible.

- Causeway part D is the beginning of the access path to Preah Vihear Temple, which are the Main Stairs. Views and atmosphere of this area is that of a small valley where the stairs were built by digging into original ground. Both sides of the stairs are forests. View from far distance, looking backward from the north entrance, comprises mountains in Thai territory in the area of the main north axis (where Yoni Base and Shiva Lingam have been discovered in Sa Trao area). The views are defined by trees and the enclosing topographical features. Problems : Market stalls are visible when looking backward, which is conflicting with the atmosphere of the monument.

- **Perceptible Views and Landscape on Each Level of Gopuras**

- Gopura V comprises views seen from the pavilions, the first point from the entrance that is above the valley. The surroundings are forests, however, the market at the base of the mountain on the main axis is visible.

- Gopura IV is an area that provides panoramic views of the surrounding topography, as well as new structures in Thai territory from eastern viewpoint.

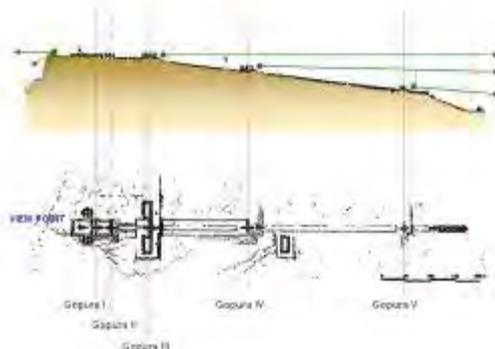
- Gopura III is an area where the views are panoramic of the surrounding topography as well as new structures in both Thai and Cambodian territories from eastern viewpoint.

- Gopuras I, II is situated on the plateau on top of the mountain ridge. The views are open to natural environment. The eastern viewpoint provides a panorama toward the lowland in Cambodian territory.

Poei Ta Di Viewpoint is the highest point of Preah Vihear Temple, being a cliff which projects from the mountain, the area provides a 270 degrees panorama toward the lowland in Cambodia. Such fantastic views of the temple's surroundings reflect the superb location of the monument.

Problems : Development and structures in Ko Mui village in Cambodian territory.

**Section : Visual Analysis from Gopura Levels**



Considering landuse and visual analysis, it is noticeable that landuse of the monument's surroundings in both Thai and Cambodian territories still has defects which lead to physical and visual disturbances to the monument both physically and visually, which is visual pollution effects. A complete conservation of this cultural heritage, therefore, should be based on a broad perspective which is not limited to the monument only but should consider all surrounding natural environments because the values of this monument is the superb architecture and art, as well as the capability in site planning and selection of the grand and beautiful location for the monument thus natural environment is an inseparable part of this cultural heritage. Management of the area for conservation and development should consider appropriateness in location and viewpoint in order to preserve the image of the monument to the best possible.

### **3.6.2 Views from Highway No. 2235**

The area on Highway No. 2235, between Ban Nong Udom and Ban Non Charoen, is in the Wildlife Reserve, which is a route that enables a clear view to the top of the mountain where Preah Vihear Temple is situated as a landmark and sacred place on mountain top. The Preah Vihear Mountain is also a landmark which is visible from far distance, giving viewers a perception of approach to the realm of this sacred place. This highway links 3 villages from which Preah Vihear Peak is visible namely, Ban Nong Udom, Ban Sam Meng, and Ban Non Charoen, indicating the relationship between these villages with Preah Vihear Temple, the sacred centre of the area. Visual problems are found in Ban Sam Meng, where the former Information Centre on mountain slope is visible. Visual analysis indicates that the building should be relocated to a new location as specified in the recommendations, which will not cause visual effects.

### **3.6.3 Views from Sattasom Mountain**

Sattasom Mountain is situated to the east of Preah Vihear Mountain. From top of the mountain, a panoramic view of Preah Vihear Temple and all its complementary elements, including the context of the temple which is located on a unique topography, are visible. This area should be concentrated on conservation of natural topographical features, prevention and control of new structures that could devalue visual aesthetics, promote accessibility by road which is harmonized with natural environment by controlling its scale and use of materials, and setting up guidelines for development that will not affect natural conditions in order to provide access to Sattasom mountain top which is a viewpoint to Preah Vihear Mountain and the panoramic view of its setting.

## Chapter 4

### Site Analysis and Management Plan

#### 4.1 Guidelines for Area Management for Conservation

Guidelines for area management for conservation of Preah Vihear Temple and its setting is necessary to be based upon integration between landuse that has resulted in conservation of monument and natural setting in order to achieve favourable perspectives and natural environment.

Management of the area by zoning in order to conserve values of the monument's contexts as well as taking into consideration the site, natural environment, and cultural landscape. The area, therefore, is divided into 3 zones :

a. **Core Zone**

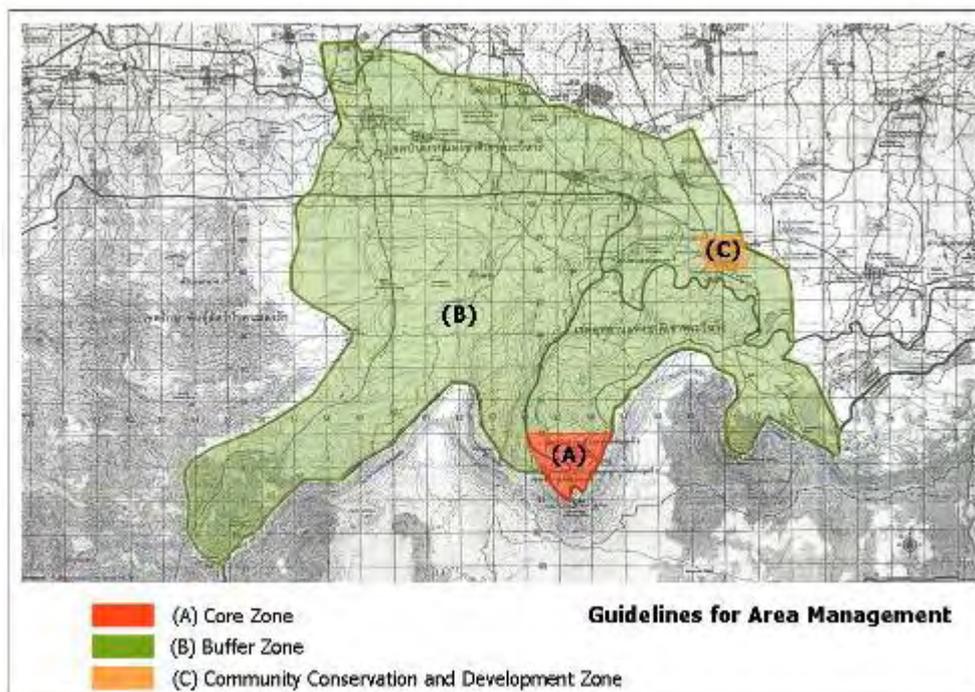
This zone covers the site of monument and its adjoining area based on demarcation of area in Registration Map of Khao Phra Wihan by the Fine Arts Department. Area coverage is 2.11 sq.km.

b. **Buffer Zone for Conservation of Environment**

This zone comprises areas in Khao Phra Wihan National Park, Phnom Dong Rak Wildlife Reserve, and communities which are located in the Khao Phra Wihan National Reserved Forest, which is included in the conservation area.

c. **Conservation and Community Development Zone**

This area comprises Phum Srol Village for which landuse policy and area management have been set up in order to support tourism activities along with local way of life by issuing building control measures and determining the locations of infrastructure and utilities.



## **4.2 Recommendations on Monument Conservation in Core Zone and Preah Vihear Mountain area**

Apart from measures for protection of important monuments based on the Acts on Monuments, Ancient Objects, Art Objects, and National Museums, and Fine Arts Department Guidelines for Monument Conservation, 1985 AD., each monument in Preah Vihear Mountain area still requires conservation implementations as specified in the following recommendations :

### **4.2.1 Ancient Dam in Sa Trao Pond Area**

Although, at present, the ancient dam and Sa Trao pond still preserve their condition as water sources used by people in both Thai and Cambodian territories, their values as ancient monuments and evidences of the past ingenuity have not been promoted in spite of their locations, which are on the main axis of Preah Vihear Temple and are important to the temple's state of being a sanctuary since ancient times.

It is, therefore, advisable to carry out archaeological excavation to remove soil deposits at the base of the dam, restoration of the stone walls, repair the damages and collapsed parts and restore the top of the stone walls, which are now covered with cement , to its original features. Space between the walls should be filled up with sand as the original, while preserving the trees. The pump house should be redesigned and relocated in order to preserve the values of the monuments. Furthermore, Sa Trao pond should be dredged and cleaned and measures should be set up for long-term conservation of water quality for interpretation and sustainability of the monument.

### **4.2.2 Ancient Dam near the Main Stairs**

It is recommended to demine the area and carry out archaeological study and feasibility study on possibilities for revitalization of the reservoir so that it is able to retain water, and restore the stone dam in the same standard as at Sa Trao.

### **4.2.3 Mo I Daeng Cliff Area**

It is advisable to improve the landscape so that the natural condition is restored, consider on appropriate locations for the Information Centre and Meeting Hall of Khao Phra Wihan National Park and other facilities.

### **4.2.4 Sathup Khu (Twin Stupas)**

Because the monument still exists in good condition, conservation works are not required at present. Nevertheless, being the only representative of this type of monuments, comparative study should be encouraged in the future. Further investigation into archaeological evidences should be carried out in the surrounding area, and information on the values of the monument should be promoted to the public.

#### 4.2.5 Mo I Daeng Rock Arts

It is advisable to carry out scientific study for conservation in order to set up measures for preservation of the stone substance of the bas-reliefs, and further comparative study should be done in order to reach a conclusion on the meaning of the bas-reliefs and their relationship to Preah Vihear Temple.

#### 4.2.6 Tham Khun Si Cave

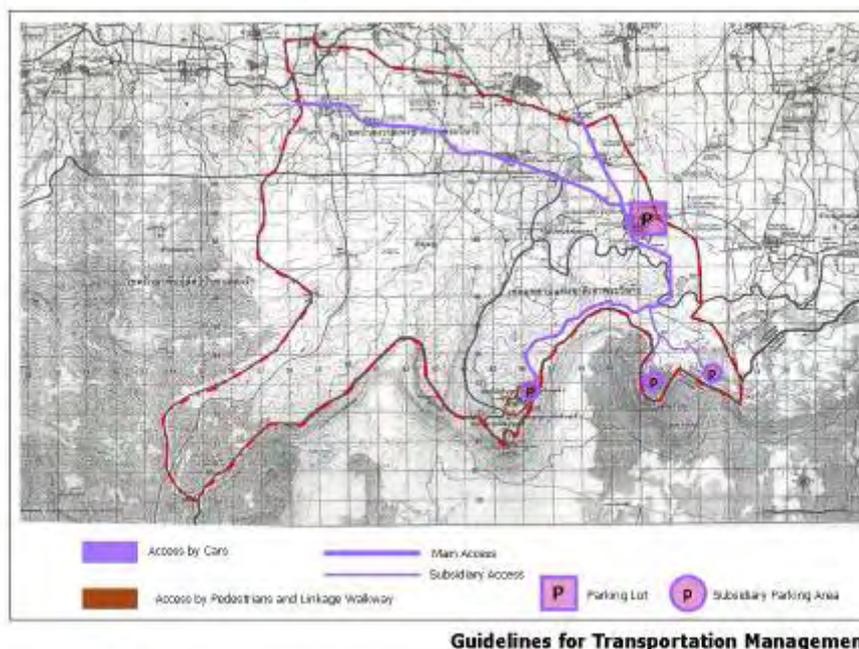
Information on archaeological significance, which exceeds the present perception of the site as merely a natural tourist attraction, should be promoted. Evidences of adaptation of the cave walls should be conserved so that the authenticity is not lost. Surroundings of the caves should be surveyed and landscape should be developed to facilitate the access to the caves and interpretation.

#### 4.2.7 Prasat Don Tual

A new conservation project for Prasat Don Tual should be made, which should comprise replacement of the decayed brick, repair of sandstone columns and returning the fallen, or broken elements to their original positions by joining broken pieces together using stainless steel dowels and chemical adhesives.

It is recommended to expand demining area which will open opportunities for further archaeological survey. Design for landscape development should be carried out and new entrance to the monument should be made so that the monument is accessible from the front in eastern direction. The asphaltic road that separates the monument from the cliff should be relocated.

### 4.3 Guidelines for Transportation Management



#### 4.3.1 Determination of Systematic Access and Linkage

- Access by car
  - Main route comprises 2 access roads namely, Highway No. 2235 and Highway No. 221.
  - Sub route comprises linkage road between the main access to Sattasom Mountain viewpoint and Prasat Don Tual via Highway No. 248.
  - Main parking area to be located in Ban Phum Srol Conservation and Development Area. Subsidiary parking areas should be provided at the Tourist Information Centre, Sattaom Mountain viewpoint and Prast Don Tual.
- Pedestrian access and linkage between important points by systematic planning of visiting routes, starting from Information Centre – Sa Trao – entrance to the monument.

#### 4.3.2 Improvement of Physical Features of Pathway

By determination of scale, design, materials and landscape elements along the pathway.

#### 4.4 Guidelines for Improvement and Revitalization of Area and Landscape of Former Tourist Information Centre to Conform to Overall Conservation Plan

The present Tourist Information Centre area has inappropriate site planning, building locations, and building designs which are disturbing to the aesthetic value and disagreeing with the atmosphere of the area. That is to say, from the entrance to the temple when looking back toward Thailand, viewers can see buildings which are visually alien. Visual analysis in the Preah Vihear Temple area and its setting has led to the setting up of guidelines for area management, which comprises determination of landuse area and measures for visual control to prevent negative effects to Preah Vihear Temple. The area for management in order to create beautiful perspectives which enhance the temple and good visual images is defined in 2 levels :

##### 4.4.1 The Vicinity of Preah Vihear Temple

- a) Remove asphaltic road from the end of the road at the temple entrance area to the Tourist Information Centre because the road is visible from Preah Vihear Temple when looking back toward Thailand, which has become an eyesore. The road should be improved into a pathway, using harmonious materials, and trees should be planted to increase shading. This road, however, can be used as an access for service cars in certain conditions.
- b) Remove viewing Salas on a hill in Thai territory and improve into a viewing deck because the salas are visible when looking back from the temple.
- c) Relocate Tourist Information Centre to an appropriate location.

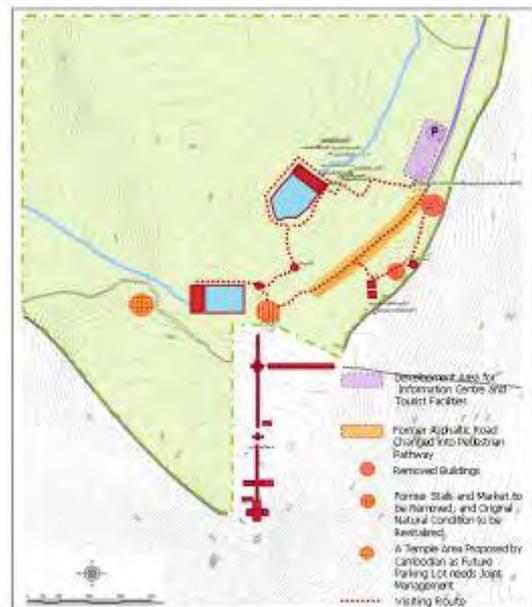
- d) Improve the entrance ground to the temple by canceling the market and restore the natural environment to the original condition because the market has become an eyesore which is visible from the stairs and Gopura IV, when looking backward, as well as not conforming to conservation of the area.

#### 4.4.2 Management of the Area for Facilities in the Former Stalls Location

By redesign the landuse planning with building control measures, building designs that take appropriate characteristics and locations into account, removing buildings which are visual disturbances, revitalizing deteriorated areas, and carrying out environmental conservation procedure and protection from various types of pollution.



**Guidelines for Transportation Management**



**Guidelines for Improvement and Revitalization of Tourist Information Centre Area and Visiting Route**