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**The study of Beng Mealea heritage site for revising tentative list and preparing final official listing as an extension for the World Heritage site of Angkor**

**研究崩列密遗产地以便修改预备名单并准备最后的官方名单为世界文化遗产吴哥窟的扩展**

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Introduction

This report is a part of a primary study of Beng Mealea heritage site for revising tentative list and preparing final official listing as an extension for the World Heritage site of Angkor. This is not an inclusive manual or a genuine document for Beng Mealea as a World Heritage nomination dossier, but it will give a general framework, some useful advises and recommendations in order to start the nomination process. The study comprises of four main parts which are a technical description of the Beng Mealea, challenges and opportunities, advisory for preparing World Heritage Nomination and a list of actions recommended for the improved protection, display and maintenance of Beng Mealea heritage site. The next parts are main contents of this report which will be analyzed and discussed further as following;

1. A technical description of the Beng Mealea
   1. Location

Situated at the foothills east of Phnom Kulen (mountain), on the national highway 64 to Kor Ker, the Beng Mealea heritage site is located 40 km east of the main group of temples at [Angkor](http://en.wikipedia.org/wiki/Angkor) and 77 km from [Siem Reap](http://en.wikipedia.org/wiki/Siem_Reap) by road. The location was geographical significant as a cross road or a junction point of the great system of ancient highways that tied together the provinces of the Classical Khmer Empire; the East-West major axis (arteries) joining the Angkor and the Prah khan of Kampong Savi via Beng Mealea (100 km); the North-East road linked Beng Mealea to Wat Phu, via Kor Ker (210 km); the South-west road connecting Beng Mealea to the Great Lake -Tonle Sap (40 ***km)1 (Figure 01).*** Also the North-West road heading to Kulen Mountain2 which probably related to stone’s transportation from major quarries. Its geographical coordinates (the latitude and longitude coordinates) is now marked at N [13°28'35" E 104°14'18".](http://tools.wmflabs.org/geohack/geohack.php?pagename=Beng_Mealea&params=13_28_35_N_104_14_18_E_type:landmark_region:KH_source:kolossus-dewiki) 4

* 1. Brief history

A mystical, isolated and forgotten Khmer temple, covered by a bunch of vines and mosses, partly embraced by roots and big trees in the jungle with mostly un-restored and in a fairly ruined state, Beng Mealea literally means "lotus pond" (translated from the Khmer language) ***(Figure 02)*** is considered to be one of the most significant temples in ancient temple-towns of the Angkorian period (Khmer classical age from 9 th-13th centuries) outside the center of Angkor. ***(Figure 03)*** It was one of the Khmer monuments/buildings (e.g. Temple complexes, Temple d’etapes, Fire Shrines, bridges) located along the East Royal Road ***(Figure 04),*** which the Temples d’etapes and Fire Shrines are located approximately every 15 km between Beng Mealea and Preah Khan of Kompong Svay ***(Figure 05).5*** Since no inscriptions have been found here and no other that mention it, the builder and the purpose for building this holy complex are still unknown.6 However, with several comparative studies on art, architecture and decoration style by experts7, the assumption tend to accept that it was built around middle of the 12th century, in the reign of Suryavarman II (1113-1145/50 A.D.) - the builder of Angkor Wat. But also, some believe it built after Angkor Wat in the reign of Dharanindravarman II (1150-? A.D.) - The builder of Preah Khan of Kompong Svay, who was a Buddhist father of Jayavarman VII (1118-1218/20 A.D.) - The great Khmer temple’s builders - including Tha Phrom, Preah Khan, Banteay Chhmar and Bayon.9 With the use of the magnetic susceptibility technique on the sandstone blocks in Beng Mealea site, suggested that it was constructed during the same period as Pr. Thommanon and Pr. Chau Say Tevoda, that is, in the early Angkor Wat Period.10 The religious (or believe) history is also unclear, but only left the carvings and decoration revealing a mix legends of Hinduism (Vishnu and Shiva) and Buddhism without any apparent traces of iconoclasm.11 12 Also, the reason for abandonment this major temple-town outside the center of Angkor for more than 850 years is still unknown and be debatable among scholars .

The forgotten Beng Mealea scared town was brought back to life in late 18th century by the drawing of French explorer and artist, Louis Delaporte (1842-1925 A.D.), which gave the overall bird’s eyes view of its temple complex ***(Figure 06)*** following by expenditures of researchers to discover the hidden site in the early 19th century. Unfortunately, those valuable missions to investigate the lost temple-town were interrupted by the Khmer Rouge period (1975-1979) and up until late 1990’s. As its strategic and hidden location, the Khmer Rouge guerrillas occupied the place as a stronghold, laying a number of landmines around the temple area which had caused deaths or injuries for a lot of their enemies, or even those locals who lived nearby and also lived, worked and played in the area. This dangerous situation had not encouraged people to come and visit the site. However, the site was added to the [UNESCO](http://en.wikipedia.org/wiki/UNESCO) [World Heritage](http://en.wikipedia.org/wiki/World_Heritage) Tentative List on September 1, 1992 in the Cultural category (with other eight tentative-list heritage sites14, and the inscription of Angkor Archaeological Park). Until, at the end of 2003, Beng Mealea site was officially reopened to visitors after the painstaking and time consuming task to clearing the land mines.15 It has been under the protection and management of the Authority for the Protection and Management of Angkor and the Region of Siem Reap (APSARA) since the time it was reopened. Inside the main temple complex, which largely collapsed, there is a network of wooden elevated walkway (partly and originally constructed for the filming of Jean-Jacques Annaud's Two Brothers (2004) and extended more linkage by APSARA later), to facilitate access to the ruined central sanctuary area.16 ***17(Figure 07)*** Also, before entering the site, visitor has to buy 5 US$ ticket for admission (not included in Angkor Pass ticket) ***(Figure 08)*** and accesses the site from southern side, crosses the moat, passes a large cruciform terrace and walks toward the main temple at the center area on the southern causeway. ***(Figure 09, 10)***

Today, with the dramatically increasing in the number of visitors to Angkor region average 25% growth in numbers every year and expected to attract four million tourists in 2014, a better paved road condition leading to the site, the continued promotion of its adventurous and exotic experience for visitation, Beng Mealea is now becoming one of a popular remote temple site outside the World Heritage Zone of Angkor Archeological Park. With hundreds visiting daily in the peak season (November to March)19 ***(Figure 11)*** Thus, without the proper conservation and management policies and plans, this heritage site (which is also a potential heritage tourism destination) might be questionable for its ability to succeed the sustainability in protecting, conserving and managing its significances and OUV of Beng Mealea heritage site in the future.

* 1. The characters of Beng Mealea

Beng Mealea heritage site was one of the lost Khmer temple-city locating outside the Angkor ancient city center to the east. According to the images obtaining from LiDAR technology in 2012 at Beng Mealea *(Figure 12),* presented the archaeological landscape beneath forest cover, they provide vivid evidences of the existing pattern of “Urban temple” in the form of formal spaces divided into regular “Orthogonal city blocks” by the road grid and pond arrangements which each block furnished with a number of elevated occupation mounds and excavated

ponds *(Figure 13, 14).* This pattern is remarkably similar to the urban patterns within the

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moats of several major temple sites in the Angkor region such as Angkor Wat and Preah Khan *(Figure 15).* The main temple complex located at the center of the city, oriented to the east. It is surrounded by a moat of 1,025m by 875m and 45m wide with the natural waterway (from Kulen Mountain) bounded to the site in the north and linked with a large baray in the east (with a small island containing a shrine in its center) by the causeway on east-west axis which is one of four paved walkways lead by cruciform terraces to the temple’s entrances at the cardinal points 23 *(Figure 16).* There is Pr. Kansaeng in Beng Mealea site which is one of five temples known as “Fire Shrines” along the East Royal Road, situated along the western causeway of Beng Mealea temple complex, unlike other four Fire Shrines which are located along the eastern causeway in the temple complexes. Therefore, it is suggested that worshipers might accessed to the Beng Mealea temple complex from the west side that is also the direction to the capital city Angkor24 *(Figure 17).*

Interestingly, Beng Mealea’s design and decoration have revealed its characters which influenced by a mixture of three styles in Angkorian period - late Baphuon style, Angkor Wat style and early Bayon style. For the architectural planning and construction of the main temple complex, its planning is a type of so-called “flat temple”25 and it often described as a “flat”version of Angkor Wat (or Angkor of the East) which they have shared something in common or alike such as; both planed with three concentric enclosures, each one set back slightly to the west, with the central shrine at the intersection of the temple axes (Beng - Mealea is flat type temple, no temple mountain like Angkor Wat, that are now all collapsed);26 the third enclosure (the outside galleries) is supported by a single wall and a row of pillars and the second galleries supported by two walls (like the Angkor)27; two libraries (or shrines?) located to the north and south of the cruciform galleries which had the same layout as the one found in Angkor Wat temple *(Figure 18)****.*** In addition the quality of temple’s construction was in high building standard and craftsmanship like Angkor Wat such as; the thinness and precision of the joints between the large sandstones blocks (from the south-eastern foot of Phanom Kulen quarries a few kilometers away like other Khmer building in the Angkor area) which were used in Angkor Wat and Wat Athevea constructed in the Angkor Wat Period *(Figure 19, 20);* elaborated

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corbelling vaulting *(Figure 21),* and half-vault techniques that work as a kind of buttressing. Moreover, other influences or styles on architectural planning and construction of Beng Mealea such as the two bridges (elevated causeway) supported by small columns that linked two libraries (or shrines?) and the cruciform gallery at the east together were very similar to a long elevated walkway approaching Baphuon temple (late Baphuon style) *(Figure 22);* the central section (a single sanctuary with, to the east, a large chamber connecting it to the first enclosure) as well as the location of the second enclosure that built very close to the first enclosure, strongly evoke the layout used later by Jayavarman VII at Ta Prohm and Preah Khan temple (early Bayon style) ;

the two large galleried structures that fill (probably additional parts later) the space between the second and outer enclosures on the south side, might reflected the idea of “filling up the vacuum” by sanctuaries in the available space of the enclosures like Ta Prohm, Preah Khan, and

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Bayon temple.

For the decoration of Beng Mealea, from the research of Jean V. Boisselier (1952) which conducted the comparative studies in decorations between Beng Mealea and some other related temples, generally concluded that most of its decoration elements were more influenced by the early Bayon style than the Angkor Wat style.33 Also its decoration still represented the mixture of the styles and believes (Hinduism and Buddhism) through its sophisticated decoration elements such as; the intricate Naga balustrades which each one was carved out from an one- pieced, continuous in-length sand stone ***(Figure 23);*** the lintels and pediments’ stone craving with the images and stories related to Hinduism or Buddhism ***(Figure 24);*** Ancient stone craving of “Devatas” (when in standing position) or “Apsaras” (when in dancing position)34 with an unusual representation of Apsara, cupping one breast, at the southeast corner pavilion of the outer enclosure ***(Figure 25).***

As a result of no obvious traces of iconoclasm, the unsafe and inconvenient accessibility to the site which discouraged the looters in the past and also no scientific research or restoration projects of the temple and surrounding landscape in full scale, then several authentic architectural and decoration elements are still intact to the site, even though some are looted by thieves or retrieved and transferred to the rescue statuary at Angkor Conservatories such as lion statues and many statues (or parts) of Shiva and Vishnu35 ***(Figure 26).***

Many visitors had expressed their adventurous feelings and senses of discovering and exploring experiences like “the Indiana Jones” for finding the lost treasures in the ruined temple embedding in a tranquil jungle 36 ***(Figure 27).*** Nowadays, not so many tourists daily come to visit the place. They usually come to the site as small groups, not large groups. No or very little numbers of locals or children approaching tourists for money or selling souvenirs. Most of them who found near the heritage property are very friendly and behave politely to the visitors. Some of them are also local guides for the visitors in small groups, or search for their daily food from the forest and the ponds, and also local children have use this site as a “heritage playground” near their residences as well ***(Figure 28).*** Thus, Beng Mealea has a unique sense of place that is quite different from others heritage places in Angkor which normally are more crowded with tourists and have a little or no signs of locals who purposefully use the site only for their commercial and tourism-serviced benefits near the main temple complex.

* 1. Recommended size, shape and zoning of heritage site

In order to propose the size and shape of Beng Mealea’s boundaries for starting the inscription process of the World Heritage List, this report has considered and followed various documents on principles and guidelines relating heritage boundaries’ designation such as; Operational Guidelines for the implementation of World Heritage Convention (2013), Preparing World Heritage Nomination (2011), The Banteay Srei Parvis Project (2009), Format for the Nomination of Properties for Inscription on the World Heritage List (2005) and Royal Decree establishing Protected Cultural Zones in Siem Reap/Angkor Region and Guidelines for their Management (1994). Also, some geographical information pertaining the physical features, land uses and activities at Beng Mealea and its vicinity from a site visit (on January 5th, 2014) and other sources (especially, interpretations of aerial images from Google maps and airborne laser scanning (LiDAR) and pictures taken from a slide presentation on “Angkor Urbanism” by Dr. Christophe Pottier37. However, this suggested size and shape of heritage site at Beng Mealea is only a tentative scheme, which must be clarified and corrected later by various stakeholders in the process of actual nomination or conducting the conservation and management plan.

From this point, the proposed shape and size are not yet exactly determined, but only a rough- sketched area will be present here ***(Figure 29).*** Normally, in the World Heritage nomination process, it requires the state party to define two boundaries which are the nominated property and buffer zone. However, for this report, there are four suggested zones that require to be assigned in order to establish the effective protection of Beng Mealea heritage site and its surrounding as a whole; which are Zone 1) The Monumental Site(s); Zone 2) - The Buffer Zones; Zone 3) - The Heritage Transition Zone; Zone 4) - The Protected Cultural Landscape Zones. There is worth to note that Zone 3 and Zone 4 are also parts of Zone 2 - The Buffer Zone, but they are separately defined since they have different regulations and controls. At this stage, only an approximate size of the Monumental site zone will be proposed in the area of approximately three sq.km. Each zone will have different levels of protection and development involving the decision-making process by various stakeholders as following;

**Zone 1) The Monumental Site** is the area (or boundary) proposed for the property that must encompass all the attributes and features that convey its potential Outstanding Universal Value of Beng Mealea, which deserves the highest level of protection. Any actions or changes upon this zone should be followed the future master plan framework and supported by strong integrative research evidences. For Beng Mealea, this area includes the main temple’s compound, structures and landscape area within the surrounding moats and some of the natural watercourse way in the north; the large eastern baray, embankments and a small island with a shrine in its center40, the areas between the surrounding moats and the baray linked together by the eastern alley and Pr.Chrei, one of the Temple d’etape (resembling temples) along the East Royal Road, situated south of Beng Mealea’s east barray.41 It is note-worthy that this zone might be extended or appointed to cover more areas in the future, if new archeological sites will be found and clearly proved their direct relationships with the significances, the Outstanding Universal Value (OUV), or enhancing the additional knowledge of Beng Mealea site (such as sand stone quarries, historic building remains, or ancient trails).

**Zone 2) - The Buffer Zones** are those clearly delineated area(s) outside a world heritage property, adjoining the monument sites which have complementary legal and/or customary restrictions placed on their uses and development to give an added layer of protection, conservation and management to the heritage properties. It does not form part of the World Heritage property, but assist in protecting the immediate setting of the property contributing to safeguard authenticity and integrity.43 For Beng Maelea, most of its buffer zones are rice paddies, green groves and domestic/agricultural-related buildings. The non-appropriated uses and development must be controlled and monitored by the acceptable degree from stakeholders, especially the locals and the heritage management team, which will enriching the surrounding to support more on the heritage significance (also OUV) of Beng Mealea.

**Zone 3) The Heritage Transition Zone** is assigned for the alteration areas before/after the visitors’ entering/leaving the heritage site. For Beng Mealea, the adjacent area outside the monument site, all along the moat in the south side including a part of the East Royal Road, is appointed to be the Heritage Transition Zone. Since Beng Mealea location is quite far from Siem Reap (also Angkor Archeological Park), potentially situated as a junction for traveling around this area and also the visitors use this area to enter or leave the site and locals use it to facilitate the tourist at present (some of them also inhabit in or adjacent to the area), then this zone should prepared to be a reception area for the visitors, an appropriate tourism-based commercial area for the locals and gives an addition buffer tool to protect the heritage site.

**Zone 4) The Protected Cultural Landscape Zones** are those areas in the landscape reflecting the “combined works of man and nature” that need to be protected in order to maintain the authenticity in location/setting (also in spirit and feeling) and safeguarded the integrity (wholeness and intactness) of the surrounding areas of the heritage places. For Beng Maelea, conserving its cultural landscape around the heritage site would be beneficial for protecting visual quality of its setting and landscape; for interpretation programs revealing the close relationship between the site, the surrounding (landscape) and the Khmer people in the past. Some of its protected cultural landscape zones might have been already coincided with the buffer zones such as rice fields, green groves; however, more focusing on sensitive areas which are possibly changed rapidly by human intervention in the landscape like greenways, water ways and road-sided corridor.

* 1. Proposed site recognition

In the World Heritage nomination process, a state party who is responsible for the nomination needs to define the definition of its heritage property for recognition based on the formal definitions in the World Heritage Convention (WHC). This will help to categorize the nominated property into one of three definitions (cultural, natural, and mixed heritage) which will involve or influence on the selection of World Heritage criteria for the nominated heritage property.44

For Beng Mealea, this report proposes the definition of the site as “cultural heritage” rather than “natural” or “mixed” property. Since the site is obviously dominated by man-made creations that were applied in the landscape. It has the main temple complex, its related structures and the modified landscape such as (lotus) ponds, moats, a baray which reflected human wisdoms and believes through the temple-town planning, the hydrological engineering and the design, construction and decoration of ancient Khmer civilization in Angkorian period. Furthermore, the cultural heritage category had already been proposed for Beng Mealea to the former tentative list in 1992. Without further scientific evidences, this heritage should still has more cultural values than natural values which need to justify inscription under cultural criteria (criteria I-VI)

The WHC also classified four types of cultural property which are monuments, groups of buildings, sites and cultural landscape.45 For the former tentative list in 1992, Beng Mealea is considered as a monument which only focused on its main temple complex. However, this heritage place is increasing its significances. The images from LiDAR clearly revealed the typical urban pattern of Angkorian temple-town which dominated by the central temple, causeways on north-south and east-west axes, road grid and ponds arrangements and the large baray. Also Beng Mealea was a “hydraulic city” which depended on water management from a stream in the north linked directly from Phnom Kulen to the moat, the baray and a number of ponds in the site. Moreover, as Beng Mealea lost in the jungle for hundred years, vegetations (like big trees, herbs, lotuses) are becoming more important to the site as well. There should be more researches beyond the already known information of the site (such as the archeological surveys, the forest and vegetation studies, water flows and hydraulic studies, and etc.) which will emphasize more on the significant of its site.

Thus, for this report, Beng Mealea has been proposed to be a cultural property which recognized as a heritage site, not just only as a stand-alone monument, which will reveals works of man or the combined works of nature and man including the areas of archaeological sites which are of Outstanding Universal Value from the historical, aesthetic, ethnological or anthropological point of view.