
Pyu Ancient Cities (Myanmar) No 1444

Official name as proposed by the State Party

Pyu Ancient Cities

Location

Sagaing Region, Magwe Region, and Bago Region
The Republic of the Union of Myanmar

Brief description

In the dry zone of the Ayeyarwady (Irrawaddy) River basin, the remains of three brick walled and moated cities of Halin, Beikthano, and Sri Ksetra located in vast irrigated landscapes, reflect the Pyu Kingdoms that flourished for over a 1,000 years between 200 BCE and 900 CE.

Fostered by patronage and pilgrimage, the development of Buddhist monasteries, and the introduction of skilful water management practices, the cities were centres of long-distance trade in manufactured goods such as terracotta, iron, gold, silver and semi-precious stones.

The three cities are partly excavated archaeological sites in which the footprint of each city is visible. Remains include excavated palace-citadels, burial grounds, and early industrial production sites, as well as still standing monumental brick Buddhist stupas, partly standing walls, and water management features – some still in use - that underpinned their organised, intensive agriculture.

Category of property

In terms of categories of cultural property set out in Article I of the 1972 World Heritage Convention, this is a serial nomination of three *sites*.

1 Basic data

Included in the Tentative List

4 October 1996

International Assistance from the World Heritage Fund for preparing the Nomination

2012

Date received by the World Heritage Centre

28 January 2013

Background

This is a new nomination.

Consultations

ICOMOS consulted its International Scientific Committee on Archaeological Heritage Management and several independent experts.

Technical Evaluation Mission

An ICOMOS technical evaluation mission visited two of the three sites, Beikthano, and Sri Ksetra, from 23 to 29 October 2013. A further mission to Halin was carried out from 23 to 26 January 2014.

Additional information requested and received from the State Party

On 16 October 2013, ICOMOS requested the State Party to provide clearer documentation of the overall sites, in terms of plans of the three sites that show the extent of the identified urban remains and the relationship between the various features.

On 17 December 2013, ICOMOS requested further documentation on the selection of sites, comparative study, management and looting. Details of the State Party's responses to both these requests are included in this report.

Date of ICOMOS approval of this report

6 March 2014

2 The property

Description

From pre-historic times the dry but fertile alluvial plains alongside the River Ayeyarwady that runs north to South from China to the Andaman Sea supported clusters of villages that based their subsistence on irrigated fields.

Urban areas gradually emerged around 200BCE as these villages of Pyu people coalesced, first in the north and later further south.

An urban elite, specialised craftsmen and the complex organisation of people and resources led to the building of immense fortified urban enclaves, each with a palace citadel at its heart, and supported by extensive water engineering works involving tanks and canals, that allowed the surrounding plains to become intensively cultivated.

Precipitation was scarce (between 750 and 1,250 millimetres per annum); apart from the rainy season during May to September, there was often no rain at all, so water storage facilities were essential.

The Pyu adopted Buddhism as it spread into Southeast Asia. New monastic communities, organized and supported by the local population, disseminated the Buddhist texts in the local vernacular. Interchange with South Asia, and particularly India and Sri Lanka, might have led to the introduction of new skills and technologies or these could have been developed locally.

The on-going prosperity of the cities was based on patronage and pilgrimage underpinned by exploitation of mineral resources that supported long distance trade of manufactured goods by river north to China, and south to the Andaman Sea, and also to the east along land routes.

The three nominated Pyu cities are stretched out alongside the River Ayeyarwady. Halin in the north, Beikthano 270km to the south, and Sri Ksetra 130km further south. The area enclosed by their walls grew successively larger from north to south, while their location also moved closer and closer to the massive River Ayeyarwady.

Halin, the northernmost of the cities, was apparently the earliest of the three to be inhabited and demonstrates the transition from earlier Iron Age cultures to the rise of of Pyu urbanism. It has no standing remains and little survives above ground level.

Beikthano, located further south along the Ayeyarwady, demonstrates the development of a sophisticated hydraulic system of lakes supplemented by manmade reservoirs, tanks, and canals. It also has the excavated remains of the earliest dated monasteries and memorial halls, combining brick and wooden architecture along with the most elaborately decorated terracotta burial urns, evidence for the mass adoption of Buddhism by the population.

Sri Ksetra, the largest and richest city demonstrates the apex of Pyu culture with lofty stupas, monumental sculpture and inscriptions, extra-mural urban zones, and specialized production areas.

While these huge cities fell into disuse and gradually came to be the buried archaeological mounds discovered by early 20th century CE archaeologists, some parts continued to be used by monastic communities and pilgrims.

Although the nomination dossier is long, ICOMOS notes that the text is quite general, lacks specific details of many of the characteristics of the properties and their locations. There are no detailed plans of each of the cities with their agricultural hinterlands showing the totality of the evidence for the various urban forms, structures and processes and what standing structures have survived.

Within the boundaries of Sri Ksetra are sixteen villages, while there are none in Halin and only one in Beikthano.

The main characteristics of the cities are as follows:

- Urban layout
- Buddhist monastic communities and shrines
- Water engineering systems
- Manufacturing sites

Urban layout

The cities were characterised by massive moated city walls with long curved brick gates, a central palace-citadel, and cluster of monastic, ritual and residential structures and an extensive internal of canals, integrated into the natural landscape. This layout is said to be 'extended' by which it is meant that the enclosed urban areas are not all densely built up but included fields, gardens, irrigation canals and water tanks as well as monuments, palaces, markets and dwellings. In other words it was a low density solution.

The three cities have slightly different forms, at Halin rectangular, at Beikthano square, and at Sri Ksetra almost round forms, probably related to topography. They vary enormously in size: walls of 9.2 kilometres at Halin, 12 kilometres at Beikthano, and 27 kilometres at Sri Ksetra.

It is suggested that the layout of the three cities was based on ideas of Royal cities coming from India related to Sudarsana, the heavenly city of Indra located on the peak of Mount Meru at the centre of the universe. In such a city the palace is at the centre surrounded by palaces of the lesser gods and all enclosed within fortified wall.

In the Pyu cities this ideal plan is said to be innovatively adapted by the introduction of massed urn burials and sometimes great stupas.

It is further suggested that the adoption and adaptation of this model – and its later transmission to other part of south East Asia – positioned the Pyu cities within the wider world. ICOMOS notes that the precise nature of this plan is not set out in detail in the nomination dossier, nor is its influence substantiated (see further discussion below).

The reuse of bricks for roads and railways has reduced the height of the outer city walls. At Beikthano, little stands above the ground; at Halin the walls have been eroded to almost ground level, while the walls at Sri Ksetra survive to considerable height in place reaching 4.5 meters in height.

In all three cities there are sizeable central palace-citadels, also with brick walls. At Sri Ksetra with a clearly marked enclosing inner moat signifying the sacred role of the palace-citadel at the centre of the cosmological universe.

This body of evidence from Halin, Beikthano, and Sri Ksetra confirms the sacred as well as practical significance of the Pyu gateways, both in the outer walls and the inner walls around the palace areas. They are seen as an important feature of the urban landscape developed by the Pyu.

Buddhist monastic communities and shrines

The Pyu adopted Buddhism as it spread into Southeast Asia while continuing to practice Hinduism. This is demonstrated by excavations at Sri Ksetra, where artefacts associated with Vishnu were uncovered and at Beikthano whose name means the “City of Vishnu”, the second god in the Hindu Triad.

Each of the cities had extensive monastic quarters. The earliest dated monastic structure is at Beikthano: a large multi-room building built of well-fired bricks with wooden doors and window frames. This building was destroyed by fire but remains of its brick walls still rise to around 2.5 metres in height.

At Halin within the buffer zone are ancient temples including the well-endowed Ngayanpade stupa with Pyu finger-marked bricks. There is also mention of the Shwegugyi (in the property) and Nyaungkobin monasteries in the buffer zone.

Sri Ksetra has its own variant of the Pyu funerary or community memorial hall found at Halin and Beikthano: the extensive stepped burial terraces – *Pyutaiks* – found outside the city walls on the southeast. Three stupas that characterize the mature phase of Buddhist architecture are found outside the city wall: the Bawbawgyi to the south, the Payagyi to the northwest, and the Payama to the north. The Bawbawgyi, is the tallest at 153 feet high and consists of a massive cylindrical column on a base of five concentric terraces.

ICOMOS notes that no specific details are provided of all the monasteries within the sites and their buffer zones.

Water engineering systems

In order to feed large urban populations within an arid area, the Pyu developed a complex system of irrigation and water storage using elevated weirs canals, dykes, sluice gates, moats and water tanks, in part adapted from earlier systems, to mediate in the seasonally expanding and contracting *in-gyi* and *inaing* (lakes and ponds), as well as changes in the volumes and forces of rivers, streams and seasonal watercourses to ensure a year-long water supply for agricultural and domestic purposes.

Halin had the simplest extant water management system of a single moat and adjacent seasonal lake (*in-gyi*), the Nagayon tank, and virtually no inner canals. At Beikthano, there are two large *in-gyi* within the walled area, and extensive water channels outside the walls, while at Sri Ksetra a large *in-gyi* is fed by streams descending from the upland Myinbahu and there are a number of pools and canals for water circulation. The system at Sri Ksetra reached its greatest extent from the 7th-9th century AD.

At Halin the large *in-gyi* is now drained, as the dam has been breached.

At Sri Ksetra, some of the water features are still intact, for instance the Shanlebyin (old Nanda Lake) and Yindaikkwin inside the walled area are still visibly surrounded by large earthen banks, and a number of canals still continue to support contemporary agricultural activities. However the original hydraulic system at Sri Ksetra has been modified by modern urban development between Payagyi stupa and the city wall on the northwest, the changing course of the Nawin Stream on north, and cultivation in relation to the large *in-gyi* or seasonal lake on east.

The best preserved remains are at Beikthano. Here in the west and south of the ancient city wall within the property are large seasonal ponds or *in-gyi* dated from Pyu times, while the buffer zone has the best preserved the ancient hydraulic system from which the Pyu cities arose.

The hydraulic system of the Pyu was never really abandoned and elements of it still continue today, to be used by local farmers who rely on water tanks constructed by the Pyu two thousand years ago, to assure year-around supply of water.

ICOMOS notes that no complete systematic survey of the water management system has been undertaken and no attempts made to date the various segments of the systems and there appears to be very little archaeological data. If the sites were indeed utilized for a millennium or more, a very complex pattern of development is likely to have formed, but of this possibility no mention is made.

Further details are needed to show the specific technical or spatial arrangements of water management within each of the cities and their buffer zones.

Manufacturing sites

Sectors of the Pyu population are said to have excelled in the manufacture of terracotta goods, iron, gold, silver and semi-precious stones, and also salt production.

There is mention of excavations that have revealed abundant manufacture of iron, and evidence of its use in architectural fittings associated with the city walls, gates and other structures, and also silver mines are mentioned in connection with Halin, and the coins for which the silver was used, as are sites for the manufacture of the bricks and iron fittings. ICOMOS notes that details are not provided as to where these are, nor how many sites have been identified and whether the evidence can still be understood as part of the layout of the cities.

It is said that upland areas where the Pyu sourced the mineral raw materials for their gold, silver, stone and iron industries are included in the buffer zones – but not which one.

At Halin salt production is still practised.

History and development

The Pyu Ancient Cities were not created all at one time they appear to have developed their extended urban format characterized by an extensive walled area in association with brick and timber constructions from around the 2nd century BCE to the 3rd century CE.

From the dates so far achieved from the excavated materials, this urbanised format had emerged at Halin by the 2nd to 3rd century CE, at Beikthano by between the 2nd century BCE to the 4th century, and at Sri Ksetra by the 1st to 3rd century CE.

It is unknown precisely when and how Sri Ksetra, a very prosperous city, declined. It is thought that the Pyu were gradually absorbed by the Burmans as Pagan grew in importance and that by the late 11th century Pagan had become the undisputed capital of a unified Burma including the formerly Pyu territories.

After the move of political power to Pagan in ca. 9th century CE, the Pyu Ancient Cities were not abandoned but continued to receive royal, elite, and popular patronage throughout successive historical phases up to the present.

They were 'discovered' in 1902 CE.

3 Justification for inscription, integrity and authenticity

Comparative analysis

The three Pyu cities are compared with Historic Cities in South and Southeast Asia inscribed on the World Heritage List; with other Contemporary Early Historic cities in South and Southeast Asia, with select walled cities of Europe and North Africa, 2nd century CE and with select Early Historic, 1st Millennium CE.

These comparisons show that cities inscribed on the World Heritage List belong to the mature phase of city development in south-east Asia rather than the earlier period to which the three Pyu cities belong. This is also true for Pagan that is currently on the Myanmar Tentative list.

In terms of comparison with other contemporary sites such as Sisupalgarh in Orissa (6th/5th century BCE to 3rd century CE); Jaugada, also in Orissa (ca. 3rd century BCE to ca. 4th century CE); Dhanyakataka, royal city of the powerful Satavahanas on the Krishna River and containing the remains of the great Amaravati Stupa (2nd/1st century BCE to 2nd/3rd century CE); Nagarjunakonda, royal city of the Ikshvakus on the middle Krishna River (2nd/3rd to 4th/5th centuries CE); Nalanda, the great centre of Buddhist learning (originated ca. 5th/6th century CE and lasting into the 12th century); Pataliputra (early 5th century BCE to 12th century CE); and Anuradhapura, the first royal city of Sri Lanka (5th century BCE to 10th century CE), it is suggested that the

Pyu Ancient Cities possessed uniquely early chronological origins among the cities of Southeast Asia.

Further comparisons are made between the size and density of the Pyu cities with other contemporary cities in Europe and North Africa. Although this shows that Pyu cities were much less densely populated than most of the other considered, these comparisons do not help as they are considering cities from very different geo-cultural contexts.

In terms of extensive cities, of much more relevance is the comparison between the Pyu cities and cities in India and Sri Lanka from where religious ideas of ideal cities are acknowledged to have come.

These comparisons are less complete. The extended urban format is not seen to have been a feature of the early historic cities of South Asia, although allowances have to be made for destruction or blurring of the outlines of ancient urban areas in India. There are however seen to be two important exceptions: Pataliputra [Patna] and Anuradhapura. It is suggested that it was highly probable that influences radiated from Pataliputra in many directions (including to the Pyu) when it was the famous capital of the Emperor Asoka, but this cannot be sustained by archaeological evidence owing to the disturbed condition of the site. The case of Anuradhapura is different: this was a city of extended format although without city walls. Many other comparisons could have been made with palace forts in India which from an early date were extensive, enclosing vast areas within their walls.

Comparisons are also considered between the Pyu cities and later cities in south-east Asia. This underscores that the extended urban format did attain its distinctive and highly developed form in the three Pyu Ancient Cities from the 2nd century CE and then also developed in the 4th or 5th century further south towards Rakhine State, east towards Thailand, Laos, and Cambodia, and in the Khmer civilization by ca. the 8th and 9th century CE. Although the extended urban format was adopted by the Khmers, there is no evidence of a reciprocal influence from the distinguishing Khmer urban concepts (strict linearity, sharply defined square and rectangular moats, water tanks and walled spaces) passing back from them to western Southeast Asia beyond Thailand.

It is thus suggested that the three Pyu Ancient Cities played a pioneering role in Southeast Asia in urban design and morphology.

The initial comparative analysis was incomplete in not considering other Pyu cities and how the selection of three was made. The supplementary information provided by the State Party augments the analysis with local comparisons. 8th century Chinese records identify 18 Pyu states throughout the Irrawaddy valley, while written epigraphic materials, written records and local chronicles mention the existence of up to ten walled Pyu cities. However, archaeological investigation has only

uncovered six principal walled cities so far in upper Myanmar. Of these, the cities of Tagaung, Wadi and Pinle (Maingmaw), all occupy a seminal place in national chronicles and are linked to Beikthano and Sri Ksetra. However they lack documented evidence of the key physical attributes of the Pyu culture and in some cases the evidence has been compromised. The three nominated sites are said to be the most thoroughly excavated, best dated and contain the greatest number of intact extant remains.

As for why all three sites are necessary to reflect Pyu culture, the rationale put forward rests partly on the argument that they developed sequentially and represent different stages in the development of Pyu urbanism. This argument is only partly justified by the historical and archaeological sources. There was considerable overlap between the three sites, and they continued to be occupied during the ensuing Pagan period.

The argument for proposing Sri Ksetra is conclusive. The justification for Beikthano is reasonably strong, whereas the inclusion of Halin is less so. Halin is an important site, but little research has been done there compared to the other two properties, and little of that research has been published. The main justification for including all three sites in the same nomination is that they represent three different phases of Pyu cultural, religious, artistic, and architectural evolution. This has become the dominant thesis, but the lack of specific archaeological research and publication makes it difficult to verify this narrative.

The serial approach is also justified by the claim that the three sites jointly played a role in introducing Buddhism and associated socio-economic changes to the region. Whether they were centres for the expansion of Pali Buddhism to the rest of mainland Southeast Asia however requires further historical validation.

Although more sites linked to Pyu culture are known, and more will no doubt be discovered in the future, it is probable that the three cities included in this nomination are the largest and most elaborate sites of the now-extinct Pyu civilization.

As a series, the justification for including all three remains weak. Halin appears to add very little that is not displayed by the other two sites.

ICOMOS considers that the comparative analysis justifies consideration of the representation of Pyu cities on the World Heritage List but has not provided a strong rationale for the inclusion of all three cities in terms of how they each contribute to the overall series.

Justification of Outstanding Universal Value

The nominated property is considered by the State Party to be of Outstanding Universal Value as a cultural property for the following reasons:

The Pyu Cities:

- Provide exceptional testimony to the introduction of Buddhism into southeast Asia two thousand years ago;
- Were the first, largest and longest-lived urban settlements in the region up to the 9th century;
- As Buddhist city states, played a seminal role in the process of transmitting the architectural and literary traditions of Pali-based Buddhism to other societies in the sub-region;
- Provide exceptional evidence of the early, mature and late stages of the Pyu civilisation, characterised by literacy, monastic communities, water management, agricultural productivity;
- Invented a form of urbanisation known as the city of extended format which influenced urbanisation within most of mainland south-east Asia.

ICOMOS considers that the three cities certainly provide a testimony to the overall Pyu state.

In terms of the influence that these cities had, this is said to relate to their extended urban form and to the transmission of the urban and literary traditions associated with Pali-based Buddhism.

First this urban form is not precisely described other than the idea of city walls enclosing a large area within which were settlements, a monumental palace compound, as well as fields and water storage.

Secondly not all scholars would agree that this 'extended city' is a phenomenon which was consciously invented at one place and time, and then transmitted as a single unified entity or concept to other parts of the region.

ICOMOS considers that it cannot be more than surmised that an extended city settlement pattern found in mainland Southeast Asia first appeared in the three nominated sites before it developed elsewhere, most notably at Angkor. This type of city arose in different places and different times as the result of differing sets of socioeconomic, institutional, and population factors, environmental conditions, technological inventions, plant and animal domestication and crucially the ability to manage water. These necessary and sufficient conditions for this extended form of city perhaps first appeared in the Pyu sites in this part of the world. It is however impossible to prove that the later development of similar cities such as Angkor were due to influence from the Pyu sites. Angkor could have arisen independently when similar conditions arose.

The early development of these cities does not logically mean that they were influential elsewhere. But the fact that these preconditions for a particular form of urban life emerged first in the Pyu lands are indicators of the early emergence of complex societies in the Pyu realm. These Pyu sites can be said to represent the transition from late Iron Age to early historic period culture.

The prosperity of these city states, based on technologies of water management and the extraction of resources spurred their development and prosperity – and this went hand in hand with the developing influence of Buddhist monasteries and their literary traditions.

The text suggests that the Pyu established trading networks with commercial centres in Southeast Asia, China, and India. This is no doubt true of Southeast Asia and India, but links with China at this period are not well attested outside of the diplomatic sphere. This does not negate the overall importance of the Pyu relations with the neighbouring parts of Asia, but the evidence for this proposition is least strong for Halin, and only somewhat stronger for Beikthano.

Integrity and authenticity

Integrity

Beikthano

The entire walled city Beikthano is within property boundaries. The boundary also incorporates not only the walled city but an extended area outside the city walls including the village of Innywagyi (an active village of around 100 families) and the Shweyaungdaw stupa and associated active monastery, and the remains of the irrigated landscape. Mention is also made of ancient urn burials within the boundary.

The Taungdwin-Magwe railway line crosses the property on the north.

Sri Ksetra

The entire walled city of Sri Ksetra is included within the property boundaries and much of its rural setting. The area has been subject to decades of archaeological research and documentation and in recent years a comprehensive inventory of archaeological sites and features has been established. However as with all archaeological sites it is not possible to say that some as yet undiscovered related elements will not occur outside the property boundary and indeed some remains are in the buffer zones.

Halin

The entire walled city of Halin is included within the property boundaries and the boundary encompasses an extended area outside the city walls but avoiding the existing village at Halin. Further archaeological sites are in the buffer zone.

In general at all three sites, the archaeological remains have suffered adverse effects and neglect through time. During the British occupation, roads and railway impacted on the remains. In the past the Public Works Department carried out some repairs using modern materials (although in many cases they have clearly marked and dated these at the time so the intervention is clear). In a number of places, concrete and new brick work was introduced to cap the archaeological remains. These are often obvious and in some cases (although

not all), such as Parama Stupa, these interventions are dated to provide transparency. Now, as a result of training from Italian conservators, less intrusive material stabilisation options have been developed.

In general terms, ICOMOS considers that the one area where integrity is weak is in terms of the hydraulic system. This is acknowledged to be of key importance as the Pyu system was never entirely abandoned and is still in parts used today by farmers. The best preserved system (that has not been impacted by various types of development) is said to be that in the buffer zone at city Beikthano. There would seem to be a strong case for including this in the nominated area. Much clearer documentation is needed of these important facets of the landscape.

The visual integrity of the property is strong. The stakeholders ensure that this also applies to the way tall crops such as sugar cane, rather than traditional crops could impact on views across the 3 sites.

Authenticity

On the ground, the form and design of Beikthano and Sri Ksetra is clearly evident. The city walls remains as an archaeological feature around the entire cities and archaeological features such as the palace citadel complexes and the city gates and other building provide evidence that allow the form and design of the city to be read. ICOMOS notes that this evidence is however not clearly documented in terms of detailed plans of the individual cities.

Beikthano and Sri Ksetra have been subjected to major reconstruction work during the past 20 years. The statement of authenticity contained in the nomination dossier does not acknowledge the reservations that have been expressed about the extent and nature of these reconstructions.

Under criterion (iv) is the assertion that “The three Pyu Ancient Cities are largely archaeologically intact, as seen in the standing monuments, the *in-situ* structural remains, the little-disturbed unexcavated remains and the still-functioning agrarian terrain”; this should be qualified. There is evidence of over-restoration of some structures, and of previous disturbance from illicit digging.

The only remaining intact structures are the Buddhist structures. The stupas are the focus of the monasteries and of the pilgrims that visit the site and thus the spirit and meaning of these places are sustained. Nevertheless the ongoing repair and maintenance of these structures needs to be subject to oversight.

The continued use of traditional agricultural practices has helped to preserve the evidence of the hydraulic irrigation systems.

However as set out above the key relationship between the Pyu cities and their irrigated landscapes can be best understood at Beikthano – although the best preserved parts are in the buffer zone.

ICOMOS considers that the conditions of integrity and authenticity have not yet been fully met. Attention needs to be given to reversing some of the strong conservation interventions; and to including the best preserved water management systems within the boundaries.

Criteria under which inscription is proposed

The property is nominated on the basis of cultural criteria (ii) and (iv).

Criterion (ii): *exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;*

This criterion is justified by the State Party on the grounds that the development of Pyu Buddhist urban culture had widespread and enduring impact throughout Southeast Asia, providing stimulus for a suite of inter-related developments in architecture, technology, monumental arts, town planning, and landscape engineering. The transformations of the Pyu cities established a prototype for later state formation following the onward transmission of Buddhist teaching and monastic practice into other parts of mainland Southeast Asia.

ICOMOS considers that this justification cannot on the basis of current evidence be fully justified in terms of cause and effect as there is no direct evidence of influence spreading from the Southeast India and Sri Lanka or of the direct influence the Pyu cities had elsewhere in terms of urban form and related Buddhist practice.

Although it is not clear who the Pyu people were – whether they reflect the fusion of immigrant from China with the local population –, nonetheless, the Pyu cities do reflect the way groups of small settlements at a certain time developed into large fortified towns that had sufficient size and organisational structure to allow for complex water management to sustain comparatively large populations.

Whether Buddhism caused socio-political transformations in Myanmar at this time, as the nomination dossier asserts, is open to debate; the socio-economic sphere may have changed first, due to autochthonous factors, thereby making it possible and advantageous to adopt Buddhist values and ideology. Buddhist societies developed in other parts of south-east Asia in the first millennium CE.

Nevertheless the association of Buddhism with early historical development of these urban sites is clear.

ICOMOS considers that these arguments are more relevant for criterion (iii) than for (ii) which would need a clearer justification for the way the cities reflect specific influence and in turn influence other places.

ICOMOS considers that this criterion has not been justified.

Criterion (iii): *bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;*

This criterion was not suggested in the nomination dossier. Nevertheless, ICOMOS considers that it could be justified on the basis that the three nominated Pyu Cities are the oldest extensive collections of brick architecture in Southeast Asia. One of the main hallmarks of this architecture is the introduction of the true arch, something which was rare in other parts of Asia during the 1st millennium CE, but not strongly argued in the documentation.

Pyu civilization had been absorbed into or merged with the Pagan culture by the 13th century, where upon it ceased to be a distinct living culture, but it is believed that many of its traits were adopted and further developed by the Myanmar people who built Pagan.

Literate Buddhist monastic communities arose in the first half of the 1st millennium CE in several parts of Southeast Asia, but the Pyu were the most highly developed of such communities. Technological and economic evolution was also reflected in the archaeological remains of this civilization. Although more sites linked to Pyu culture are known, and more will no doubt be discovered in the future, it is probable that the three cities included in this nomination are the largest and most elaborate sites of the now-extinct Pyu civilization.

In order to justify including all three, a clearer understanding is needed of how each contributes to the series.

ICOMOS considers that this criterion has the capacity to be justified on the basis of a clearer understanding as to how each site contributes to the series.

Criterion (iv): *be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;*

This criterion is justified by the State Party on the grounds that technological innovations in resource management, agriculture and manufacturing of brick and iron at the Pyu Ancient Cities created the preconditions leading to significant advances in urban planning and building construction. Furthermore, the completeness and reliability of dated archaeological sequences from the site, with radiocarbon dates derived from intact architectural features dating back to 190 BCE, provide

scientific proof of the entire one-thousand year period of occupation of the cities. As a serial property, the three cities together provide sufficient material evidence of the complete development trajectory of the Pyu culture.

ICOMOS considers that the three Pyu cities can be seen as an outstanding urban ensemble that reflects a fusion of religious ideas and technological developments that facilitated innovative response to urban planning. These cities do however need to be considered in relation to the irrigated landscape that was crucial to their support.

In terms of how these might be seen to reflect a specific period in history, ICOMOS considers that the urbanisation of the Ayeyarwady River basin, manifests the power and influence of the Pyu Kingdoms that flourished for over a 1,000 years between 200 BCE and 900 CE.

ICOMOS considers that in order to fully justify this criterion more specific details would be needed on the detailed attributes related to planning and landscape engineering which are only currently described in general terms.

ICOMOS considers that this criterion has the capacity to be justified with more details of specific attributes and how each site contributes to the series.

ICOMOS considers that the serial approach has been justified but that the choice of the site components has not been fully demonstrated.

ICOMOS considers that the condition of authenticity and integrity, and the criteria have not been fully demonstrated at this stage.

4 Factors affecting the property

There is an urgent need to stabilise and conserve the burial urns in the Burial Halls. These fragile relics are deteriorating and they provided crucial evidence for the development of what are seen as unique mortuary practices.

Currently there is a lack of regular monitoring of the archaeological remains and thus the rate of decay is not known. Such monitoring needs to be introduced.

Buddhist Monasteries and stupas undergo constant protection and continuous maintenance by monks and community members. There is public & Sangha demand to more fully renovate the stupas – and this has already had some impact. As the State does not have direct control over the Monks' activities and they have a level of autonomy through their own body the *sangha*, there is a need to include trustees of the *sangha* in regional stakeholder groups in order to try and put in place a collaborative and agreed approach.

Local people make use of bricks apparently lying around at Sri Ksetra and Beikthano. This issue needs to be addressed through awareness raising campaigns.

Some parts of the property have already been impacted by a severe loss of irrigation features and damage to archaeological sites as a result of deeper ploughing techniques. There is a need to codify less invasive techniques within the sites and for sensitive areas of the buffer zones. Statutory controls for this are being drafted.

In relation to urban development, there is already a moratorium in place to halt further expansion of Khittaya New Town. However there is still moderate to high pressure from the city of Pyay. ICOMOS considers that planning controls are needed to prevent expansion inside the property.

The relationship between the remains of the cities and their irrigated hinterland is important. It is therefore appropriate that the extensive property and buffer zones boundaries encompass remains of water management arrangements. These large areas, and some of the nominated areas contain living settlements whose inhabitants farm the irrigated land. Currently the villages do not appear to present major threats apart from where they impinge on important archaeological areas.

Both the property and the buffer zones are subject to development controls. Nevertheless ICOMOS considers that it would be appropriate for broader guidelines to be introduced that might consider how villages might be developed systematically and sustainably in the future to provide enhanced facilities, and improved infrastructure.

The property does not appear to be prepared for large increases in tourist numbers. Currently tourists mainly visit Sri Ksetra; Halin currently experiences little or no tourism.

Within the Management plan the only relevant objective to tourism relates to the quality of interpretation. There is thus no active consideration of the potential impacts of tourists, no monitoring of visitor numbers and no understanding of the carrying capacity of the sites. A tourism plan/strategy needs to be developed that encompasses research into current visitor number, the carrying capacity of the site, appropriate means to manage visitors (including transport over dusty roads) and in particular ways to limit numbers of visitors in certain sensitive parts of the property, perhaps through considering guided tours.

Such a strategy also needs to consider ways of monitoring current and future impacts of visitors as well as how local people might benefit from tourists.

Although the coordinating body has agreed that only the monasteries now in the property will remain, and thus no new ones will be allowed, redevelopment of monasteries could become a potential threat.

The monasteries are within the property boundaries. Some are small comprising just one building. The buildings are not historic but mostly built using traditional materials. If in the future, the sites become opened up to more visitors, and especially to more pilgrims, there could be pressure for visitor reception facilities and more substantial buildings. The nomination dossier states that 'Local donations continued the unbroken historical tradition with the repair of old buildings and the construction of new buildings at the active Buddhist monasteries at all three ancient city sites.'

Before the potential threats become real threats, there needs to be an understanding of any limits on future development of these highly important elements of the sites, particularly in the light of the comparative independence of the *sangha*.

Although highly localised and small scale, ICOMOS considers that quarrying and mining need to be prohibited in the sites and their buffer zones. It is understood one quarry has been already closed.

The nomination dossier mentions a road, a railway line, an (unused) airfield, and more recently a gas pipeline, and high-wire electricity pylons, across the site of Sri Ksetra ancient city. There is a need to codify how infrastructural improvements will respect buried archaeology and the integrity of the archaeological remains.

As regards risk preparedness, this is not yet in place in relation to potential threats from flooding, which is a high risk, and fire and earthquakes for which the risk could be said to be moderate.

ICOMOS considers that a disaster risk management plan needs to be prepared.

ICOMOS considers that the main threats to the property are likely to be development pressures in the villages and the negative impacts of tourism if it increases rapidly and is unregulated.

5 Protection, conservation and management

Boundaries of the nominated property and buffer zone

The boundaries of each site encompass the entire brick walled city as well as peri-urban features such as mounds, monuments and landscape alterations. The boundaries are based on existing legal preservation demarcations.

Each buffer zone follows natural features such as mountains and streams, as well as local administrative boundaries.

The demarcation of the buffer zone at each site is the updated demarcation of the Protected and Preserved Zone under the same law.

The boundaries at each site are marked with physical markers that denote the site boundary and the buffer zone boundary.

The rationale for the boundaries in relation to the water systems needs to be clarified as currently some of the best surviving systems appear to be in the buffer zone.

ICOMOS considers that although the boundaries of the nominated property and of its buffer zones are adequate in relation to the walled cities, they need to be modified in Beikthano to include the best preserved remains of the hydraulic systems within the boundaries.

Ownership

Within the nominated property 32% of the land is publicly-owned; while 68% of the land is privately-owned. The publically owned land includes excavated and unexcavated areas of archaeological exploration, the standing monuments and other historic structures, and the service buildings constructed for the protection, management, maintenance, and interpretation of the property, such as the site office, site museums, and artefact stores.

Protection

The property is protected under the Law on the Protection and Preservation of Cultural Heritage Region, 1998 (as amended) as an Ancient Site Zone.

The buffer zones at each city are also protected as a Protected and Preserved Zone under the same law.

There are also nationally promulgated regulations Rules and Regulation of the Cultural Heritage Region Law (2011) applicable to the protection of the three Pyu Ancient Cities sites. These regulations prohibit certain activities.

In the buffer zones, there are planning controls in place with all development requiring approval of the Director General of the Department of Archaeology Museums and Library (DAML).

ICOMOS considers that what remains unclear is the degree of control over the development of villages both within the property and within the buffer zone, as the property and the buffer zone are protected under the same law.

One village Pyay pressed to be outside of the property presumably for reasons connected to degrees of control.

Currently the villages both in the property and in the buffer zones are attractive place with traditional houses. In due course, particularly if they benefit from tourism, this situation could change and change rapidly.

ICOMOS considers that more details are needed as to how the process of transformation will be planned and handled. Some other planning mechanisms would appear to be needed that are based on anticipating the need for improved facilities and infrastructure and can address how incremental change will be managed.

ICOMOS considers that the legal protection in place is adequate but more details are needed as to its implementation.

Conservation

The both Sri Ksetra and Beikthano have been inventoried. A record of excavations is maintained by the Department of Archaeology Museums and Library.

The inventories are now being integrated with a GIS system that has just been developed. GIS mapping for has been undertaken in 2013 and now exists to such a fine grained level that every rice paddy and property boundary is mapped.

However ICOMOS notes that the maps provided with the nomination dossier and as supplementary information are not detailed enough to understand fully the contents of the nominated sites and their buffer zones. They do not allow a full understanding of the disposition of the many monuments (105 monumental structures inside the walls of Sri Ksetra and 172 outside the walls), the location of villages or the water management arrangements and how these all relate to each other.

There have been long-term conservation efforts at Sri Ksetra and Beikthano over many decades. This has however been patchy. As in many archaeological sites, there was a separation between those undertaking the excavations and those responsible for conservation.

In the 1950s, 1960s and 1970s conservation work was carried out in a less than ideal way at various places across the property. The method of consolidation involved a capping brick layer on cement mortar.

As part of the preparation for World Heritage nomination, DAML have sought and received advice from conservators in Italy and the Italian government has pledged further support. They have also had some advice from The Getty.

ICOMOS considers that some additional external funding assistance will be needed to achieve further capacity building and specialised training. The supplementary information provided by the State Party refers to a training programme being developed by the local UNESCO office to address this need.

With the recent training that Myanmar conservators have received, they are undertaking some work on previously un-conserved areas. They may turn their attention in the future to previously restored areas but this is not seen as a priority unless the old intervention is causing problems.

Some of the brick work on the city wall around Sri Ksetra is collapsing and needs stabilisation. Other parts of the wall are well conserved.

Of greatest concern is the excavated burial hall in which pots with cremated bones are exposed to view. The pots are very fragile and many are broken with the contents of the pots winnowing away. The site is roofed and barriers are up to prevent people from stepping onto the surface but this arrangement does not appear to be entirely satisfactory in preventing access.

No details are provided on the conservation of the hydraulic features.

ICOMOS considers that the conservation of certain aspects of the property is of concern and need urgent attention. The conservation of the hydraulic features is unknown.

Management

Management structures and processes,
Including traditional management processes

A structure has been established which sets up at a National level Myanmar National Cultural Central Committee and a Myanmar National Committee for World Heritage. These are headed by the Union Minister for the Ministry of Culture and provide oversight across individual site management.

Specific to the Pyu Ancient Cities is the PYUCOMM i.e. the Pyu Ancient Cities Co-ordinating Committee. This comprises 3 site specific working groups one for each site and these meet regionally to ensure maximum participation. These report to the Director General of DAML and he in turn reports to the Myanmar National Cultural Central Committee and the Ministry of Culture. The PYUCOMM is central to the property management framework and is a key element of the Property Management Plan helping to ensure that local traditional systems are acknowledged and incorporated in to the day to day management. It is the PYUCOMM that provides the mandate for the site managers to manage the property. All development within the Property boundary has to be discussed by the PYUCOMM and must ultimately be approved of by the Director General. The traditional authority of the village headmen and the *sangha* (the body of monks) is maintained through their voice on the regional group of the PYUCOMM. The PYUCOMM brings together the multiple stakeholders: regional authorities, local government, village representatives, and the *sangha*.

In practice, given the distance between the three sites, the PYUCOMM operates regional stakeholder groups in each of the sites so that meetings are held locally.

Staffing levels appear adequate. Currently funds are limited to maintaining a DAML presence on site. There will be a need for extra funding to access international

conservators to assist with training, and to prepare visitor management and risk preparedness plans and to implement any necessary actions.

In the supplementary information provided, the State Party reports that financial support from the national budget has increased substantially since the nomination was submitted, as has the amount of international assistance received (and pledged). In addition, supplementary sources of financing have become available, most notably through the establishment of an autonomous foundation, the Pyu Ancient Cities Heritage Trust.

As well as the security guards at each site (10 at Halin, 10 at Beikthano, and 14 at Sri Ksetra) at Beikthano a small cultural zone security force has been established to patrol parts of the site remote from the museum and office. This provides an employment opportunity for the local Innywagyi Village.

Traditional management has two strands: the village communities who farmed the land in and around the sites and their buffer zones and the monastic communities.

The village communities do have representatives on the Coordinating Committee and appear to be supportive of the nomination dossier.

The State does not have direct control over the Monks rather they have a level of autonomy through their own body the *sangha*. In the past there have been tensions between DAML managing the sites as 'archaeological property' and the way in which the monks and Buddhist community would like to manage them as places of active veneration and pilgrimage, with constant renewal of some fabric. An example is the replacement every five to ten years of the top 'umbrella' of the stupas as the gilt fades and rusts off. It is the Board of Trustees for the stupa that makes many of the management decisions. Currently the site managers DAML appear to have very good relationships with the various Boards of Trustees, with the individual Monks and with the *sangha*.

Policy framework: management plans and arrangements, including visitor management and presentation

A Property Management Plan (PMP) has been endorsed by the PYUCOMM which includes all of the relevant local and regional authorities such as the Department for Land use Planning etc. The PMP has been approved and adopted by the Director General DAML.

The PMP has also been approved and endorsed by the Ministry of Culture on the 18 January 2013.

The PMP respects the autonomy of the various local stakeholders while at the same time putting in place a supportive and protective framework. ICOMOS considers that the PMP does however need to be strengthened in some areas such as risk preparedness,

visitor management and capacity building for conservation. It also needs to be strengthened through the production of key priorities and actions plans. Perhaps most fundamentally it needs to be underpinned by a much clearer documentation of the attributes of the Outstanding Universal Value that is proposed.

There is currently no interpretation plan that has been prepared for the property. The National Museum staff has been involved in the redesign of the site museums. There are also a considerable number of new interpretation boards at the entrance gates to all three sites.

In Property Management Plan, there is an Action Plan to improve the Overall interpretation and presentation strategy of the Pyu Ancient Cities.

A small number of foreign tourists visit mainly Sri Ksetra. Myanmar itself is experiencing a sudden upswing in visitors now that it is relatively easier to travel there. ICOMOS notes that currently the property does not appear to be prepared for a sudden increase in visitors.

There is no visitor management plan – and as set out above, nor a specific management objective or action related to this issue. There are thus no tools to monitor visitors or consider the best ways to control and manage them on site. Nor are the sites set out in a way that allows visitors to stay within certain areas, in order to protect the property.

There would appear to be an urgent need for a visitor management plan/strategy based on expert advice on areas such as carrying capacity, visitor access routes, monitoring and management of visitor numbers.

Until a more effective visitor management arrangement is in place, guided tours would appear to be the safest option.

Involvement of the local communities

Local communities have been involved in the nomination and are involved in the Coordinating committee. Much work has been done to harness such consensus in the nomination process.

Consultation with communities has apparently led to certain concessions. These include putting Halin village and parts of Pyay in the buffer zone rather than in the property, and respecting the authority of the Board of Trustees for the stupas.

The management system still remains to be tested but the structures in place do not appear to be robust enough to deal with potential rapid changes in for instance visitor numbers, or the increasing demands for improved houses and other local infrastructure, or in terms of changing agricultural techniques, all of which are acknowledged in the nomination dossier.

ICOMOS considers that the management system for the property needs strengthening through the development of detailed visitor management, development and planning strategies.

6 Monitoring

Monitoring indicators have been defined related to evidence for various threats to the property. These need to be augmented to include more conservation indicators to monitor the lack of change and the impact of visitors.

ICOMOS considers that the monitoring indicators could be strengthened.

7 Conclusions

The remains of the three Pyu cities appear to be remarkable survivals of an early urbanisation process and one that can still be seen in relation to their irrigated landscapes that underpinned their prosperity. Much more detail is needed though in order to allow a full formulation of their significance and value.

Considerable archaeological research has been undertaken at the sites and this has allowed an understanding of certain aspects of the form of the cities and the period during which they flourished as well as details of mercantile practise and burial and religious practices. With its monumental remains, Sri Ksetra demonstrates the final flourishing of the Pyu cities; Beikthano contributes an understanding of early Buddhist structures and still surviving water management; it is less clear how Halin adds a new dimension to the series. Although the archaeology has been studied and inventoried, there is a lack of detail on the precise manifestations of the urban planning that is considered to have been influential and on the overall relationship between the various elements revealed. There is also insufficient documentation on the manufacturing sites that underpinned trade and the prosperity of the communities.

These large archaeological sites sit within a thriving agricultural landscape, scattered with villages that rely to an extent on the Pyu hydraulic systems and are brought to life by the monastic communities clustered around the still standing Buddhist stupas. Little detailed documentation has been provided on these aspects.

For the hydraulic system, although sketch maps have been prepared, it remains unclear quite how it functioned and what and where the best preserved remains are. The scope and extent of the monasteries and the location of villages is not made clear.

There is thus a need for much clearer documentation on each of the sites in the property in order to allow a clearer understanding of the overall attributes of each of

the three sites and how they interrelate with each other, and on how each of the three cities contributes to the series.

Overall this is an extremely fragile landscape in terms of the large areas of exposed and buried archaeological remains, and the extensive water bodies and water courses (some relict and some still used) that make up the irrigation system.

Both the archaeological remains, and in particular the burial sites, and the water courses need conservation, some urgently, and management. Although there has been some capacity building in the conservation of brickwork, there is a need for further training and for further conservation advice. For the hydraulic system, the situation is unclear.

Overlaying these highly important structures within the landscape are the thriving agricultural villages and small monasteries. The nomination dossier provides few details of these and their location and size is unclear, but it appears that both contain interesting examples of local vernacular architecture.

Although the local communities are supportive of the nomination and look forward to benefiting from tourism, there appears to be very little readiness to cope with the potential impacts of increased visitor numbers. There is an urgent need to put in place strategies to address these issues and to ensure that benefits from tourism reach local communities.

ICOMOS considers that if the three sites are to justify Outstanding Universal Value then clarity on the scope and extent of the attributes of potential Outstanding Universal Value is needed. There is also a need to put in place much more proactive strategies to prepare for an increase in visitors, to prepare for ways to improve the living standards of local villages, and to manage increased numbers of pilgrims.

8 Recommendations

Recommendations with respect to inscription

ICOMOS recommends that the examination of the nomination of Pyu Ancient Cities, The Republic of the Union of Myanmar, to the World Heritage List be **deferred** in order to allow the State Party, with the advice of ICOMOS and the World Heritage Centre, if requested, to:

- Provide documentation to clarify the scope and extent of the attributes of potential Outstanding Universal Value of the three cities in relation to:
 - The urban planning and the overall relationship of the various elements revealed;
 - Details of the Pyu hydraulic system, what survives, what is still in use, and what needs

conserving and how the best preserved parts might be included within the property boundaries;

- Sites of industrial production;
- Locations and details of monasteries;
- Locations of villages in the sites and buffer zones and details of those within the boundaries;
- Provide a deeper justification for the inclusion of all three cities in terms of how they each contribute to the overall series;
- Provide maps of the nominated sites (to a larger scale than those already provided) that set out the attributes of the potential Outstanding Universal Value of the property and their relationship to each other;
- Augment the Management plan through the development of a risk preparedness strategy, a tourism management strategy/plan to prepare for an increase in visitors, and the addition of key priorities and an action plan that addresses ways to improve the living standards of local villages, and to manage an increased numbers of pilgrims;
- Develop as soon as possible a conservation plan for the burial sites, allied to capacity building in the conservation of these particularly fragile and vulnerable sites.

ICOMOS remains at the disposal of the State Party in the framework of upstream processes to advise them on the above recommendations.

ICOMOS considers that any revised nomination would need to be considered by an expert mission to the site.



Maps showing the location and the boundaries of the nominated properties



Sri Ksetra - Bawbawgyi stupa



Halin - city wall



Beikthano - rice paddy



Beikthano - stupa structure excavation